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PERFORMANCE WORK STATEMENT CONTRACT NO. 68HERC19D0003 TO -68HERC19F0310

TITLE: General Social Survey Data Analysis and Writeup (Using Data from the General Social Survey combined with derived residential nature measures to assess human health and wellbeing)

PERIOD OF PERFORMANCE: September 19, 2019 – July 30, 2020

Specify Section & Paragraph SOW: (select all that apply)

A. Assessment Issues and Documents

B. Residential Nature Measures Research and Development

F. Information Management

G. Literature Search

I. PURPOSE

The purpose of this task order (TO) is to provide services to the U.S. Environmental Protection Agency's (hereinafter EPA or Agency) Exposure Methods and Measurement Division of the National Exposure Research Laboratory, Office of Research and Development (ORD).

II. BACKGROUND

The General Social Survey (GSS) collects representative data from a nationwide sample of American adults to monitor attitudes and behaviors regarding several socially-relevant issues; it is available since 1972 and currently conducted in even-numbered years. The GSS core module includes a few measures of individual well-being (including perceived general health and subjective well-being) that allow for analyses covering multiple years. The GSS deployed an Environmental module focused on knowledge, attitudes and behaviors related to the environment, including in the 2012 sample. Environmental modules have allowed social scientists to better characterize nationwide trends regarding attitudes and behaviors towards the environment in the American population, including perception of environmental problems and level of concern for the environment, trust in information sources, motivation for environmental stewardship, etc.

EPA aims to explore associations between objective measures of ecosystem services, provided by EnviroAtlas, with GSS responses related to individual perceptions of well-being, including general health and happiness. The nature and magnitude of the influence of exposure to natural environments on human well-being (including physical health, psychological and social functioning, and subjective well-being) is not well characterized across the U.S., at the individual level. EPA established an Interagency Agreement with NSF to gain access to extant individual-level data on perceived health and well-being, as well as demographics and socio-cultural factors, from the General Social Survey (GSS), including geocoded census tract, which is considered sensitive data by GSS and is not publicly available. GSS geocoded data at the census tract level have been accessed through special agreement with the host institution (NORC, University of Chicago) aimed at ensuring protection of sensitive data. Among others, EPA intends to use EnviroAtlas layers for the nation (e.g. population near roadways with little or no tree buffer, percentage of natural land cover, percentage of forest) and for selected communities (e.g. access to parks, view of trees, view of water, green space per capita) to evaluate those aspects of the natural environment that convey a salutogenic influence on individual well-being.

Results of the analysis will be prepared for journal publication and any resulting articles will be incorporated into the EnviroAtlas Eco-Health Browser.

III. STATEMENT OF WORK

Various support will be needed to analyze and summarize data regarding access to residential nature and the relationship to health and wellbeing. Support can be defined as (but not limited to): analysis of additional data, summary of results and gathering of relevant supporting literature, documentation of code used for statistical analyses, and writeup of results for internal or external publication purposes.

Task 1: Analysis of GSS data combined with spatial information

GSS data contain numerous response categories including socio-demographic and self-reported data. To build a model of the potential impacts of residential nature on health, relevant information must be included to control for variables such as age, sex, race/ethnicity, income, employment status, marital status, presence of children, and housing type. Spatial information related to land cover variables from buffers created around the residence provides the primary variable of interest to be statistically assessed. Under the direction of EPA staff [the TO-COR], the Contractor will develop statistical models to assess the impact of residential nature on health and well-being and conduct statistical analysis using the developed model. Model code, outputs, and relevant documentation of model development is expected. Performance of this task requires accessing sensitive data located in a secure room within the EPA RTP campus and appropriate training and clearance to do so.

Specifically, in support of these goals the contractors shall create models to measure:

- 1. GSS variables related to health. This may require:
 - Scaling the metric of self-reported general health to valid endpoints for statistical comparison
 - Creating stratified analyses to account for population level dynamics
 - Annotation of code used to create models
- 2. GSS variables related to well-being. This may require:
 - Scaling the metric of self-reported happiness to valid endpoints for statistical comparison
 - Creating stratified analyses to account for population level dynamics
 - Annotation of code used to create models
- 3. GSS data describing social factors, physical activity and workplace information. This may require:
 - Consulting the variable list to identify relevant survey years
 - Extracting necessary data and incorporating it into the model as e.g. covariates or mediators
 - Annotation of code used to create models

A memo describing the proposed approach to completing Task 1 shall be submitted to EPA TO-COR for review and approval 21 work days after meeting with EPA scientists and the EPA TO-COR. Model construction and statistical analysis results (including model code, outputs, and relevant documentation as requested by the TO-COR) shall be completed 2 months after acceptance of proposed approach by EPA.

Task 2: Data Summary Report & Draft manuscript from created models

This task will involve the development of a data summary report that describes model results including necessary background information, the models created during data analysis, and the resultant findings.

After the data analysis and report is complete, the report will be used to assist in the writing of a manuscript presenting the findings from one or more of the created models in the context of existing topic literature. The manuscript will include information on the background, methods, and results of the research and is due 3-9 months after completion of Task 1.

IV. Quality Assurance

The contractor shall follow the quality assurance project plan (QAPP) titled "Revealing the Value and Influence of the Natural Environment on Individual Well-being using the GSS" (QAPP ID: D-EMMD-0031515-QP-1) for the work described in this Performance Work Statement (PWS). The "Quality Assurance Instructions for Contractors Citing Secondary Data" in Appendix A of this PWS shall also be followed. Specific plans for statistical model development will be described by either the contractor or EPA in an addendum to the existing cited QAPP and be submitted for review and approval by an EPA QA Manager prior to starting work on this Task Order.

V. ANTICIPATED DELIVERABLES

All products by the Contractor must be of high quality, written in a clear concise style, with a logical organization and presentation. Deliverables shall be provided to EPA in electronic formats compatible with EPA-supported software (likely to be Word, R, and Excel).

VI. DELIVERABLES AND SCHEDULE

Quality Assurance	Schedule
QAPP addendum to cover statistical	21 work days after award of the Task Order
model development and analysis	100
Task 1. Deliverables	Schedule
Memo describing proposed approach	21 work days after meeting with EPA scientists and
	TO-COR
Model Construction, statistical	2 months after acceptance of proposed approach by
analysis results of data including	EPA
model code, outputs, and relevant	
documentation as requested by the	
TO-COR	
Task 2. Deliverables	Schedule
Report out of results from created	3-9 months after completion of Task 1 analytics
models in the form of 1) a data	
summary report and 2) a written co-	
authored manuscript based on results	
from Task 1	

VII. MANAGEMENT CONTROLS

- 1. All deliverables shall be reviewed for conformance to the requirements of this TO before being approved as final.
- 2. The Contractor shall comply with other applicable requirements for final TO reports stipulated in contract.

VIII. NOTICE REGARDING GUIDANCE PROVIDED UNDER THIS PROJECT

Guidance is strictly limited to technical and analytical support. The Contractor shall not engage in activities of an inherent governmental nature such as the following:

- (1) Formulation of Agency policy
- (2) Selection of Agency priorities
- (3) Development of Agency regulations

Should the Contractor receive any instruction from an EPA staff person that the Contractor ascertains to fall into any of these categories or goes beyond the scope of the contract or TO, the Contractor shall immediately contact the Task Order Contracting Officer Representative (TO-COR), Project Officer (PO), or Contracting Officer (CO).

IX. SPECIAL CONDITIONS AND ASSUMPTIONS

The Contractor shall hold a conference call with the EPA TO-COR at the initiation of the task order, and shall provide a bi-weekly update to the COR by telephone for the duration of the TO, in addition to the standard reporting requirements of the contract.

X. EPA CONTACT INFORMATION

Contracting Officer Representative: Daniel A. Vallero, PhD, NERL/SED, vallero.daniel@epa.gov, 919-541-3306

Alternate COR: Peter P. Egeghy, PhD, NERL/CED, egeghy.peter@epa.gov, 919-541-4103

Appendix A

Quality Assurance Instructions for Contractors Citing Secondary Data

Section 515 of the Treasury and General Government Appropriations Act for fiscal year 2001 directed the Office of Management and Budget (OMB) to issue guidelines to all Federal agencies to ensure and maximize the quality, objectivity, utility, and integrity of the information they disseminate. This law and the OMB guidance subsequently issued in 67 FR 8452 (02/22/02) underscore the need for EPA/NCEA to assess the quality and credibility of the secondary research information cited in its assessment documents.

Secondary research information is defined as information that was originally produced for one purpose but is now being recompiled or reassessed for a different purpose. Secondary research information usually originates from such primary sources as journal articles, books, government and industry reports, databases, and models. The set of processes that follows serves as a guide to evaluate the strength of secondary data gathered from these primary sources.

The Contractors must list the sources for the references cited in his/her document chapters or sections. The source list will include but not be limited to the names of any commercially available or local databases searched by computer or by hand, the search terms and search strategy used, and the time period of the search. List any print sources like books or journal articles which provided references. List any sources of raw data.

After fully reporting all of the reference sources, identify the most relevant information or key studies among the references you cite and critically evaluate them. Key studies are those most crucial or pivotal to answer the research questions for the project. The key study may have positive or negative results and may even be all that is currently available on the research topic, but the key study is integral to any discussion of the topic. Sometimes, the key study is not recognizable until all of the literature is gathered and evaluated. Key studies should exhibit at least most of the general attributes defined below:

FOCUS: the work not only addresses the area of inquiry under consideration but also contributes to its understanding;

VERIFY: the work is consistent with accepted knowledge in the field or, if not, the new or varying information is documented within the work; the work fits within the context of the literature and is intellectually honest and authentic;

INTEGRITY: Is the work structurally sound? In a piece of research, is the design or research rationale logical and appropriate?

RIGOR: the work is important, meaningful, and non-trivial relative to the field and exhibits sufficient depth of intellect rather than superficial or simplistic reasoning;

UTILITY: the work is useful and professionally relevant; it makes a contribution to the field in terms of the practitioners' understanding or decision-making on the topic.

CLARITY: Is it written clearly and appropriately for the nature of the study?

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(Signature of Contracting Officer)

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AMEN	IDMENT OF SOLICITATION	MODIFICATION (OF CONTRACT	1. CONTRACT ID CO	DDE F	PAGE C	F PAGES
2. AMENDME	NT/MODIFICATION NUMBER	3. EFFECTIVE DATE 08/13/2020	4. REQUISITION/PURCHASE	E REQUISITION NUMBER	5. PROJECT I	NUMBER ((If applicable)
6. ISSUED BY	CODE		7. ADMINISTERED BY (If other than Item 6)	CODE		
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Except as provi	ded herein, all terms and conditions of the do	cument referenced in Item 9A	or 10A, as heretofore change	ed, remains unchanged	and in full force	and effect.	
	ND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF				•
			Raoul D. Scott, Dire	ctor Policy, Train	ing and Ove	ersight I	Division
15B. CONTRA	CTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF A		RAOUL SCOTT 1:40:17 -04'00'	16C. DA	TE SIGNED
(S	ignature of person authorized to sign)		(Signature	of Contracting Officer)			

52.204-25 Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.

As prescribed in 4.2105(b) and in the applicability instructions in interim FAR Case 2019-009, insert the following clause:

Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment (Aug 2020)

(a) <u>Definitions</u>. As used in this clause—

Backhaul means intermediate links between the core network, or backbone network, and the small subnetworks at the edge of the network (e.g., connecting cell phones/towers to the core telephone network). Backhaul can be wireless (e.g., microwave) or wired (e.g., fiber optic, coaxial cable, Ethernet).

Covered foreign country means The People's Republic of China.

Covered telecommunications equipment or services means—

- (1) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities);
- (2) For the purpose of public safety, security of Government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities);
- (3) Telecommunications or video surveillance services provided by such entities or using such equipment; or
- (4) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

Critical technology means-

- (1) Defense articles or defense services included on the United States Munitions List set forth in the International Traffic in Arms Regulations under subchapter M of chapter I of title 22, Code of Federal Regulations;
- (2) Items included on the Commerce Control List set forth in Supplement No. 1 to part 774 of the Export Administration Regulations under subchapter C of chapter VII of title 15, Code of Federal Regulations, and controlled-

- (i) Pursuant to multilateral regimes, including for reasons relating to national security, chemical and biological weapons proliferation, nuclear nonproliferation, or missile technology; or
 - (ii) For reasons relating to regional stability or surreptitious listening;
- (3) Specially designed and prepared nuclear equipment, parts and components, materials, software, and technology covered by part 810 of title 10, Code of Federal Regulations (relating to assistance to foreign atomic energy activities);
- (4) Nuclear facilities, equipment, and material covered by part 110 of title 10, Code of Federal Regulations (relating to export and import of nuclear equipment and material);
- (5) Select agents and toxins covered by part 331 of title 7, Code of Federal Regulations, part 121 of title 9 of such Code, or part 73 of title 42 of such Code; or
- (6) Emerging and foundational technologies controlled pursuant to section 1758 of the Export Control Reform Act of 2018 (50 U.S.C. 4817).

Interconnection arrangements means arrangements governing the physical connection of two or more networks to allow the use of another's network to hand off traffic where it is ultimately delivered (e.g., connection of a customer of telephone provider A to a customer of telephone company B) or sharing data and other information resources.

Reasonable inquiry means an inquiry designed to uncover any information in the entity's possession about the identity of the producer or provider of covered telecommunications equipment or services used by the entity that excludes the need to include an internal or third-party audit.

Roaming means cellular communications services (e.g., voice, video, data) received from a visited network when unable to connect to the facilities of the home network either because signal coverage is too weak or because traffic is too high.

Substantial or essential component means any component necessary for the proper function or performance of a piece of equipment, system, or service.

(b) Prohibition. (1) Section 889(a)(1)(A) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2019, from procuring or obtaining, or extending or renewing a contract to procure or obtain, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. The Contractor is prohibited from providing to the Government any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104.

- (2) Section 889(a)(1)(B) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2020, from entering into a contract, or extending or renewing a contract, with an entity that uses any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104. This prohibition applies to the use of covered telecommunications equipment or services, regardless of whether that use is in performance of work under a Federal contract.
 - (c) Exceptions. This clause does not prohibit contractors from providing—
- (1) A service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or
- (2) Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.
 - (d) Reporting requirement.
- (1) In the event the Contractor identifies covered telecommunications equipment or services used as a substantial or essential component of any system, or as critical technology as part of any system, during contract performance, or the Contractor is notified of such by a subcontractor at any tier or by any other source, the Contractor shall report the information in paragraph (d)(2) of this clause to the Contracting Officer, unless elsewhere in this contract are established procedures for reporting the information; in the case of the Department of Defense, the Contractor shall report to the website at https://dibnet.dod.mil. For indefinite delivery contracts, the Contractor shall report to the Contracting Officer for the indefinite delivery contract and the Contracting Officer(s) for any affected order or, in the case of the Department of Defense, identify both the indefinite delivery contract and any affected orders in the report provided at https://dibnet.dod.mil.
- (2) The Contractor shall report the following information pursuant to paragraph (d)(1) of this clause
- (i) Within one business day from the date of such identification or notification: the contract number; the order number(s), if applicable; supplier name; supplier unique entity identifier (if known); supplier Commercial and Government Entity (CAGE) code (if known); brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.
- (ii) Within 10 business days of submitting the information in paragraph (d)(2)(i) of this clause: any further available information about mitigation actions undertaken or recommended. In addition, the Contractor shall describe the efforts it undertook to prevent use or submission of covered telecommunications equipment or services, and any additional efforts that will be incorporated to prevent future use or submission of covered telecommunications equipment or services.

(e) *Subcontracts*. The Contractor shall insert the substance of this clause, including this paragraph (e) and excluding paragraph (b)(2), in all subcontracts and other contractual instruments, including subcontracts for the acquisition of commercial items.

(End of clause)

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ORDER FOR SUPPLIES OR SERVICES SCHEDULE - CONTINUATION

PAGE NO

2

IMPORTANT: Mark all packages and papers with contract and/or order numbers. DATE OF ORDER CONTRACT NO. ORDER NO. 68HERC20F0011 10/07/2019 68HERC19D0003

ITEM NO.	SUPPLIES/SERVICES	QUANTITY		UNIT	AMOUNT	QUANTITY
(a)	(b)	ORDERED (c)	(d)	PRICE (e)	(f)	ACCEPTED (g)
F 1	Admin Office: CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001 Period of Performance: 10/07/2019 to 10/06/2020 Support for Americas Children and the				9,726.00	
E I 1 E Ç (1 E E E E E E E E E E E E E E E E E E	Support for Americas Children and the Environment: Firm Fixed Price \$9,726 per ICF proposal dated 10/07/2019. Accounting Info: 19-20-B-QP-000MA4-2505-1911P91023-001 BFY: 19 EFY: 20 Fund: B Budget Org: 2P Program (PRC): 000MA4 Budget (BOC): 2505 DCN - Line ID: 1911P91023-001 Funding Flag: Partial Funded: \$9,726.00 Support for Americas Children and the Environment Firm Fixed Price 10/07/2019 - 10/06/2020 S9,726.00 per ICF proposal dated 10/07/2019				9,726.00	

Statement of Work

Contractor Name: ICF, Inc.

Task Order Title: Support for America's Children and the Environment

I. Background, Purpose and Scope

America's Children and the Environment (ACE) is EPA's compilation of children's environmental health indicators. ACE presents available data to report on trends and status of important factors related to children's environmental health, with indicators in three categories: Environments and Contaminants; Biomonitoring; and Health.

The ACE indicators are periodically updated on the Agency's public website at www.epa.gov/ace, providing easy access to all of the ACE content, along with supporting detailed technical documentation. Several of the indicators are also published annually in the interagency *America's Children* report, available at childstats.gov.

The contractor provided support for ACE under a previous contract (GS-00F-010CA_EP-G16H-01019), including calculation of updated indicator values for existing ACE indicators and editing ACE website files to incorporate updated indicator values that were computed since the prior website update was completed in 2017. All relevant website files have been edited in 2019, but the 2019 revisions have not yet been published to the public website. The purpose of this task assignment is to provide additional support for updating the ACE website, and support for updates to selected existing children's environmental health indicators.

Task 1: Within 3 days of the TO award, the Contractor shall schedule a conference call (not to exceed 1 hour) with the TO Contracting Officer Representative (TOCOR) and other EPA staff and any appropriate contractor staff to clarify outstanding questions and confirm the schedule of specific tasks. Copies of all correspondence pertaining to the performance of this TO shall be sent to the L-COR.

Task 2: Support for ACE website and indicator updates

The contractor shall edit website text, graphics and supporting background documents, as requested by the TO-COR. On a date to be specified by the TO-COR, the contractor shall publish all updated content to the public ACE website.

The contractor shall provide updated values (incorporating data for the year 2018) for the following indicators from *America's Children and the Environment* and *America's Children*: asthma prevalence, and neurodevelopmental disorders. Updated indicator values shall be provided in Excel spreadsheets.

Deliverables and due dates:

- 2a. Publish updates to the public ACE website: on date to be specified by the TO-COR2b. Asthma and neurodevelopmental disorders indicators update: 11/20/19

AMENDMENT OF SOLICITATION/MODIFICA	ATION OF CONTRACT		1. CONTRACT ID CODE	PAGE	OF PAGES
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQ	UISITION/PURCHASE REQ. NO.	5. PROJECT	NO. (If applicable)
P00001	See Block 16C				
6. ISSUED BY CODE	CAD	7. ADN	MINISTERED BY (If other than Item 6)	CODE	
CAD US Environmental Protection 26 West Martin Luther King D Mail Code: W136 Cincinnati OH 45268-0001				_	
8. NAME AND ADDRESS OF CONTRACTOR (No., street	, county, State and ZIP Code)	(x) 9A.	AMENDMENT OF SOLICITATION NO.		
ICF Incorporated, L.L.C. Attn: Robert Toth 9300 LEE HIGHWAY FAIRFAX VA 220316050		9B. x 10/6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	DATED (SEE ITEM 11) . MODIFICATION OF CONTRACT/ORDER NOTE: HERC19D0003 HERC20F0011 B. DATED (SEE ITEM 13)	O.	
CODE 072648579	FACILITY CODE				
CODE 072648579	11. THIS ITEM ONLY APPLIES		0/07/2019		
separate letter or electronic communication which ind RECEIVED AT THE PLACE DESIGNATED FOR THE OFFER. If by virtue of this amendment you desire to each letter or electronic communication makes referent 12. ACCOUNTING AND APPROPRIATION DATA (If requised Scientific	pies of the amendment; (b) By acknudes a reference to the solicitation at RECEIPT OF OFFERS PRIOR TO change an offer already submitted, noe to the solicitation and this amenuired)	owledging rec and amendme THE HOUR A such change dment, and is	eipt of this amendment on each copy of the of nt numbers. FAILURE OF YOUR ACKNOWL IND DATE SPECIFIED MAY RESULT IN REJE may be made by letter or electronic communic	fer submitted; LEDGEMENT T ECTION OF YOutline ation, provided pecified.	or (c) By O BE JUR
	CT/ORDER IS MODIFIED TO REFL I IN ITEM 14, PURSUANT TO THE	ECT THE ADI AUTHORITY	ES SET FORTH IN ITEM 14 ARE MADE IN T MINISTRATIVE CHANGES (such as changes of FAR 43.103(b).		
D. OTHER (Specify type of modification	and authority)				
E. IMPORTANT: Contractor X is not	is required to sign this docume	nt and return	copies to the issuing	g office.	
14. DESCRIPTION OF AMENDMENT/MODIFICATION DUNS Number: 072648579 Support for Americas Childre TOCOR: CHRISTINE LLOYD Payment: RTP Finance Center US Environmental Protection RTP-Finance Center (AA216-01 109 TW Alexander Drive www2.epa.gov/financial/contr Durham NC 27711 Period of Performance: 10/07 Continued	n and the Environm Agency) acts	nent	olicitation/contract subject matter where feasit	le.)	
Except as provided herein, all terms and conditions of the	e document referenced in Item 9 A	or 10A, as he	retofore changed, remains unchanged and in f	full force and et	fect.
15A. NAME AND TITLE OF SIGNER (Type or print)		16A. I	NAME AND TITLE OF CONTRACTING OFFICE liam M. Yates		
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNE		JNITED STATES OF AMERICA		16C. DATE SIGNED
		1.5		LECYRONIC SIGNATURE	12/03/2019
(Signature of person authorized to sign)			(Signature of Contracting Officer)		

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CONTINUATION SHEET	68HERC19D0003/68HERC20F0011/P00001	2	2

NAME OF OFFEROR OR CONTRACTOR
ICF Incorporated, L.L.C.

ITEM NO.	SUPPLIES/SERVICES	QUANTITY		UNIT PRICE	AMOUNT
(A)	(B)	(C)	(D)	(E)	(F)
	Support for Americas Children and the Environment				
	Firm Fixed Price 10/07/2019 - 10/06/2020				
	\$9,726.00 per ICF proposal dated 10/07/2019				
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AMENDMENT OF SOLICITATION/MODIFICA	ATION OF CONTRACT		CONTRACT ID CODE	PAGE	OF PAGES
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQ	UISITION/PURCHASE REQ. NO.	5. PROJECT	NO. (If applicable)
P00002	 See Block 16C	PR-0	A-20-00045		
6. ISSUED BY CODE	CAD	7. ADN	INISTERED BY (If other than Item 6)	CODE	
CAD US Environmental Protection 26 West Martin Luther King D Mail Code: W136 Cincinnati OH 45268-0001					
8. NAME AND ADDRESS OF CONTRACTOR (No., street	county, State and ZIP Code)	/ 9A.	AMENDMENT OF SOLICITATION NO.		
ICF Incorporated, L.L.C. Attn: Robert Toth 9300 LEE HIGHWAY FAIRFAX VA 220316050		9B. × 10/6 6 8	DATED (SEE ITEM 11) . MODIFICATION OF CONTRACT/ORDER I HERC19D0003 HERC20F0011 5. DATED (SEE ITEM 13)	NO.	
CODE 072648579	FACILITY CODE		0/07/2019		
	11. THIS ITEM ONLY APPLIES				
	RECEIPT OF OFFERS PRIOR TO change an offer already submitted, note to the solicitation and this amenuired)	THE HOUR A such change idment, and is Net Inc RDERS. IT MC	ND DATE SPECIFIED MAY RESULT IN RE- may be made by letter or electronic communi received prior to the opening hour and date s	ECTION OF YO cation, provided specified. 24,963.0	OUR 00
	CT/ORDER IS MODIFIED TO REFL I IN ITEM 14, PURSUANT TO THE F IS ENTERED INTO PURSUANT	ECT THE ADI AUTHORITY	MINISTRATIVE CHANGES (such as changes OF FAR 43.103(b).		
E. IMPORTANT: Contractor 🗵 is not	is required to sign this docume	nt and return	copies to the issui	ng office.	
14. DESCRIPTION OF AMENDMENT/MODIFICATION DUNS Number: 072648579 Support for Americas Childre TOCOR: CHRISTINE LLOYD LIST OF CHANGES: Reason for Modification: The funding for the modification	n and the Environm	nent			add
Total Amount for this Modifi New Total Amount for this Ve New Total Amount for this Aw Continued Except as provided herein, all terms and conditions of the 15A. NAME AND TITLE OF SIGNER (Type or print)	rsion: \$34,689.00 ard: \$34,689.00	or 10A, as her	NAME AND TITLE OF CONTRACTING OFF		
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNE		liam M. Yates UNITED STATES OF AMERICA		16C. DATE SIGNED
			Com. Holy	LECTRONIC SIGNATURE	02/11/2020
(Signature of person authorized to sign)			(Signature of Contracting Officer)		

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NAME OF OFFEROR OR CONTRACTOR

I NO.	SUPPLIES/SERVICES	QUANTITY		UNIT PRICE	AMOUNT
7)	(B)	(C)	(D)	(E)	(F)
	Obligated Amount for this Modification: \$24,963.00				
	New Total Obligated Amount for this Award:				
	\$34,689.00				
	CHANGES FOR LINE ITEM NUMBER: 1				
	Total Amount changed				
	3				
	from \$9,726.00 to \$34,689.00				
	Obligated Amount for this Modification: \$24,963.00				
	g				
	NEW ACCOUNTING CODE ADDED:				
	Account code:				
	19-20-B-QZ-000MH3-2505-2011Z91031-001				
	Beginning FiscalYear 19				
	Ending Fiscal Year 20				
	Fund (Appropriation) B				
	Budget Organization QZ				
	Program (PRC) 000MH3				
	Budget (BOC) 2505				
	Job # (Site/Project)				
	Cost Organization				
	DCN-LineID 2011Z91031-001				
	DON-LINEID Z011Z91031-001				
	Amount: \$24,963.00				
	Darmont Address.				
	Payment Address:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
	Payment:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
	Period of Performance: 10/07/2019 to 10/06/2020				
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	Support for Americas Children and the Environment				
	Firm Fixed Price 10/07/2019 - 10/06/2020				
	\$9,726.00 per ICF proposal dated 10/07/2019				

AMENDMENT OF SOLICITATION/MODIFIC	CATION OF CONTRACT	1. CONTRACT ID CODE	PAGE OF PAGES
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00003	See Block 16C		
6. ISSUED BY CODE	CAD	7. ADMINISTERED BY (If other than Item 6)	CODE
CAD US Environmental Protection 26 West Martin Luther King Mail Code: W136 Cincinnati OH 45268-0001			
8. NAME AND ADDRESS OF CONTRACTOR (No., stre	at county State and 7IP Code)	() 9A. AMENDMENT OF SOLICITATION NO.	
S. NAME AND ADDRESS OF CONTRACTOR (NO., sire) ICF Incorporated, L.L.C. Attn: Robert Toth 9300 LEE HIGHWAY FAIRFAX VA 220316050	a, county, state and 21r Code)	y 10A. MODIFICATION OF CONTRACT/ORDE 68HERC19D0003 68HERC20F0011 10B. DATED (SEE ITEM 13)	R NO.
CODE 072648579	FACILITY CODE	10/07/2019	
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each letter or electronic communication makes reference 12. ACCOUNTING AND APPROPRIATION DATA (If respectively) See Schedule 13. THIS ITEM ONLY APPLIES TO	ence to the solicitation and this amend quired) MODIFICATION OF CONTRACTS/OR	such change may be made by letter or electronic comm dment, and is received prior to the opening hour and dat EDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS THE CHANGES SET FORTH IN ITEM 14 ARE MADE I	e specified. DESCRIBED IN ITEM 14.
B. THE ABOVE NUMBERED CONTRA appropriation data, etc.) SET FORT C. THIS SUPPLEMENTAL AGREEME		ECT THE ADMINISTRATIVE CHANGES (such as chang AUTHORITY OF FAR 43.103(b). FO AUTHORITY OF:	es in paying office,
D. OTHER (Specify type of modification	n and authority)		
E. IMPORTANT: Contractor X is not	is required to sign this documer	nt and return copies to the iss	suing office.
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		William M. Yates	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNE	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED ELECTRONIC SIGNATURE 03/25/2020

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NAME OF OFFEROR OR CONTRACTOR

TEM NO.	SUPPLIES/SERVICES	QUANTITY			AMOUNT
(A)	(B)	(C)	(D)	(E)	(F)
	Payment:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
	Period of Performance: 10/07/2019 to 10/06/2020				
	Support for Americas Children and the Environment				
	Firm Fixed Price 10/07/2019 - 10/06/2020				
	\$9,726.00 per ICF proposal dated 10/07/2019				
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AMENDMENT OF SOLICITATION/MO	DIFICATION O	F CONTRACT		1. CONTRACT ID COL	ΣE	PAGE	OF PAGES
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CAD US Environmental Protect 26 West Martin Luther K Mail Code: W136 Cincinnati OH 45268-000	ing Drive	4					
8. NAME AND ADDRESS OF CONTRACTOR (No etropt county State	e and 7IP Code)	l la	A. AMENDMENT OF SOLI	CITATION NO		
ICF Incorporated, L.L.C. Attn: Robert Toth 9300 LEE HIGHWAY FAIRFAX VA 220316050	vo., sueet, county, stat	e and zir Coue)	91 X 10 6	DATED (SEE ITEM 11) A. MODIFICATION OF COMBRERC19D0003 8 HERC20F0011 B. DATED (SEE ITEM 13)	ONTRACT/ORDER N	4O.	
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	 11. TH	IS ITEM ONLY APPLIES TO A			ıs		
OFFER. If by virtue of this amendment you of each letter or electronic communication make 12. ACCOUNTING AND APPROPRIATION DASE Schedule 13. THIS ITEM ONLY APPLIATION OF THE CHECK ONE A. THIS CHANGE ORDER IS I ORDER NO. IN ITEM 10A.	es reference to the se A (If required) ES TO MODIFICATION	olicitation and this amendmen	nt, and	s received prior to the ope	ning hour and date sp	pecified.	
B. THE ABOVE NUMBERED C appropriation data, etc.) SE X C. THIS SUPPLEMENTAL AGE				(F. 58%)	:S (such as changes	in paying office	,
D. OTHER (Specify type of mo	dification and author	ity)					
E. IMPORTANT: Contractor	is not 🗌 is requ	ired to sign this document and	d returr		copies to the issuin	a office.	
14. DESCRIPTION OF AMENDMENT/MODIFICATION OF AMENDMENT/MODIFICATION OF AMERICAS Chiral TOCOR: CHRISTINE LLOYD The purpose of this modification signed by Funchanged.	CATION (Organized ldren and fication i	by UCF section headings, inc the Environmen s to incorpora	cluding t	solicitation/contract subject	ct matter where feasib EPA blanket	bbe.)	
Continued Except as provided herein, all terms and condit 15A. NAME AND TITLE OF SIGNER (Type or p		t referenced in Item 9 A or 10	16A	NAME AND TITLE OF C	ONTRACTING OFFIC		
		1		lliam M. Yate			
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED		UNITED STATES OF AM		LECTRONIC SIGNATURE	16C. DATE SIGNED

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NAME OF OFFEROR OR CONTRACTOR

EM NO.	SUPPLIES/SERVICES	QUANTITY		UNIT PRICE	AMOUNT
(A)	(B)	(C)	(D)	(E)	(F)
	Payment:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
	Period of Performance: 10/07/2019 to 10/06/2020				
	Support for Americas Children and the Environment				
	Firm Fixed Price 10/07/2019 - 10/06/2020				
	\$9,726.00 per ICF proposal dated 10/07/2019				
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AMEN	IDMENT OF SOLICITATION	MODIFICATION (OF CONTRACT	1. CONTRACT ID CO	DDE F	PAGE C	F PAGES
2. AMENDME	NT/MODIFICATION NUMBER	3. EFFECTIVE DATE 08/13/2020	4. REQUISITION/PURCHASI	E REQUISITION NUMBER	5. PROJECT I	NUMBER (If applicable)
6. ISSUED BY	CODE		7. ADMINISTERED BY (If other than Item 6)	CODE		
OMS/ARM US Enviror 1200 Penn	Scott, Director I/OAS/Policy, Training and Over nmental Protection Agency, Mai nsylvania Avenue, NW n, DC 20004	rsight Division I Code 3802R			_		
	ADDRESS OF CONTRACTOR (Number, str	reet, county, State and ZIP Co	ode)	(X) 9A. AMENDME	NT OF SOLICITA	ATION NUI	MBER
To All EPA	Contractors			9B. DATED (SEI 10A. MODIFICA To all EPA (10B. DATED (SE	EITEM 11) TION OF CONTI	RACT/ORE	DER NUMBER
CODE		ACILITY CODE					200
	11. THIS ITE	M ONLY APPLIES TO	AMENDMENTS OF S	OLICITATIONS			
or (c) By separa RECEIVED AT by virtue of this communication	ng items 8 and 15, and returning ate letter or electronic communication which i THE PLACE DESIGNATED FOR THE RECI amendment you desire to change an offer al makes reference to the solicitation and this a	ncludes a reference to the sol EIPT OF OFFERS PRIOR TO ready submitted, such change imendment, and is received p	icitation and amendment num THE HOUR AND DATE SPE e may be made by letter or ele rior to the opening hour and o	bers. FAILURE OF YO ECIFIED MAY RESULT I ectronic communication, late specified.	UR ACKNOWLE IN REJECTION (provided each le	DGMENT OF YOUR	TO BE OFFER. If
			DIFICATIONS OF COI R NUMBER AS DESC				
CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PUI NUMBER IN ITEM 10A.		1.6.1		3.00	NTRACT	ORDER
X	B. THE ABOVE NUMBERED CONTRACT/ appropriation data, etc.) SET FORTH IN	ORDER IS MODIFIED TO RE ITEM 14, PURSUANT TO TH	EFLECT THE ADMINISTRATI HE AUTHORITY OF FAR 43.	VE CHANGES (such as 103(b).	changes in payi	ng office,	
	C. THIS SUPPLEMENTAL AGREEMENT I		NT TO AUTHORITY OF:				
	D. OTHER (Specify type of modification and	a authority)			·		
		is required to sign this			s to the issuir	ng office	
This contra 4.2105, red Telecomm	act/order is being modified in acquiring contracting officers to incurrent on the contracting officers and video Surveillaned for the full text version of FA	cordance with the ap clude FAR clause 52. ce Services or Equip	plicability instructions 204-25, Prohibition of ment.	s in interim FAR (on Contracting for	Case 2019-0 r Certain	009, an	d FAR
Except as provi	ded herein, all terms and conditions of the do	cument referenced in Item 9A	or 10A, as heretofore chang	ed, remains unchanged	and in full force	and effect.	
15A. NAME AN	ND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF Raoul D. Scott, Dire			•	Division
15D COUTES	OTOD/OFFEDOD	Laco Date Oloves	LOD UNITED OTATES OF	AMERICA			
TOB. CONTRA	CTOR/OFFEROR	15C. DATE SIGNED	RAOUL SCO		RAOUL SCOTT 1:40:17 -04'00'	16C. DA	TE SIGNED
(S	ignature of person authorized to sign)	_	(Signature	of Contracting Officer)			

52.204-25 Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.

As prescribed in 4.2105(b) and in the applicability instructions in interim FAR Case 2019-009, insert the following clause:

Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment (Aug 2020)

(a) <u>Definitions</u>. As used in this clause—

Backhaul means intermediate links between the core network, or backbone network, and the small subnetworks at the edge of the network (e.g., connecting cell phones/towers to the core telephone network). Backhaul can be wireless (e.g., microwave) or wired (e.g., fiber optic, coaxial cable, Ethernet).

Covered foreign country means The People's Republic of China.

Covered telecommunications equipment or services means—

- (1) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities);
- (2) For the purpose of public safety, security of Government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities);
- (3) Telecommunications or video surveillance services provided by such entities or using such equipment; or
- (4) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

Critical technology means-

- (1) Defense articles or defense services included on the United States Munitions List set forth in the International Traffic in Arms Regulations under subchapter M of chapter I of title 22, Code of Federal Regulations;
- (2) Items included on the Commerce Control List set forth in Supplement No. 1 to part 774 of the Export Administration Regulations under subchapter C of chapter VII of title 15, Code of Federal Regulations, and controlled-

- (i) Pursuant to multilateral regimes, including for reasons relating to national security, chemical and biological weapons proliferation, nuclear nonproliferation, or missile technology; or
 - (ii) For reasons relating to regional stability or surreptitious listening;
- (3) Specially designed and prepared nuclear equipment, parts and components, materials, software, and technology covered by part 810 of title 10, Code of Federal Regulations (relating to assistance to foreign atomic energy activities);
- (4) Nuclear facilities, equipment, and material covered by part 110 of title 10, Code of Federal Regulations (relating to export and import of nuclear equipment and material);
- (5) Select agents and toxins covered by part 331 of title 7, Code of Federal Regulations, part 121 of title 9 of such Code, or part 73 of title 42 of such Code; or
- (6) Emerging and foundational technologies controlled pursuant to section 1758 of the Export Control Reform Act of 2018 (50 U.S.C. 4817).

Interconnection arrangements means arrangements governing the physical connection of two or more networks to allow the use of another's network to hand off traffic where it is ultimately delivered (e.g., connection of a customer of telephone provider A to a customer of telephone company B) or sharing data and other information resources.

Reasonable inquiry means an inquiry designed to uncover any information in the entity's possession about the identity of the producer or provider of covered telecommunications equipment or services used by the entity that excludes the need to include an internal or third-party audit.

Roaming means cellular communications services (e.g., voice, video, data) received from a visited network when unable to connect to the facilities of the home network either because signal coverage is too weak or because traffic is too high.

Substantial or essential component means any component necessary for the proper function or performance of a piece of equipment, system, or service.

(b) Prohibition. (1) Section 889(a)(1)(A) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2019, from procuring or obtaining, or extending or renewing a contract to procure or obtain, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. The Contractor is prohibited from providing to the Government any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104.

- (2) Section 889(a)(1)(B) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2020, from entering into a contract, or extending or renewing a contract, with an entity that uses any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104. This prohibition applies to the use of covered telecommunications equipment or services, regardless of whether that use is in performance of work under a Federal contract.
 - (c) Exceptions. This clause does not prohibit contractors from providing—
- (1) A service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or
- (2) Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.
 - (d) Reporting requirement.
- (1) In the event the Contractor identifies covered telecommunications equipment or services used as a substantial or essential component of any system, or as critical technology as part of any system, during contract performance, or the Contractor is notified of such by a subcontractor at any tier or by any other source, the Contractor shall report the information in paragraph (d)(2) of this clause to the Contracting Officer, unless elsewhere in this contract are established procedures for reporting the information; in the case of the Department of Defense, the Contractor shall report to the website at https://dibnet.dod.mil. For indefinite delivery contracts, the Contractor shall report to the Contracting Officer for the indefinite delivery contract and the Contracting Officer(s) for any affected order or, in the case of the Department of Defense, identify both the indefinite delivery contract and any affected orders in the report provided at https://dibnet.dod.mil.
- (2) The Contractor shall report the following information pursuant to paragraph (d)(1) of this clause
- (i) Within one business day from the date of such identification or notification: the contract number; the order number(s), if applicable; supplier name; supplier unique entity identifier (if known); supplier Commercial and Government Entity (CAGE) code (if known); brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.
- (ii) Within 10 business days of submitting the information in paragraph (d)(2)(i) of this clause: any further available information about mitigation actions undertaken or recommended. In addition, the Contractor shall describe the efforts it undertook to prevent use or submission of covered telecommunications equipment or services, and any additional efforts that will be incorporated to prevent future use or submission of covered telecommunications equipment or services.

(e) *Subcontracts*. The Contractor shall insert the substance of this clause, including this paragraph (e) and excluding paragraph (b)(2), in all subcontracts and other contractual instruments, including subcontracts for the acquisition of commercial items.

(End of clause)

AMENDMENT OF SOLICITATION/MODIFIC	ATION OF CONTRACT		1. CONTRACT ID CODE	PAGE	OF PAGES
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. RE		5. PROJECT	NO. (If applicable)
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Except as provided herein, all terms and conditions of the	e document referenced in Item 9 A	or 10A, as h	neretofore changed, remains unchanged and	in full force and e	ffect.
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NAME OF OFFEROR OR CONTRACTOR

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	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
	Period of Performance: 10/07/2019 to 09/30/2021				
	Support for Americas Children and the Environment				
	Firm Fixed Price 10/07/2019 - 10/06/2020				
	\$9,726.00 per ICF proposal dated 10/07/2019				
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001	Admin Office: CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001 Period of Performance: 10/18/2019 to 10/17/2020 This PR is to support a workshop on Enhanced Efficiency Fertilizers and write a journal article.	(6)		(e)	43,804.00	(9)
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Performance Work Statement (PWS) 68HERC20F0022

Title: Enhanced Efficiency Fertilizer Workshop and Journal Article

I. Purpose

The purpose of this purchase order is to provide services to the staff of the Environmental Protection Agency (EPA) Office of Research and Development (ORD) in the National Center for Environmental Assessment (NCEA) in Washington, D.C.

The Contractor shall provide logistical support for a 1.5- day workshop, using a workshop plan to be provided by the Task Order Contracting Officer's Representative (TO-COR) in advance of the workshop. The workshop will be structured around providing feedback to the EPA and USDA on a new collaborative project being developed to assess the potential for Enhanced Efficiency Fertilizers (EEFs) to be used more widely in the U.S. Participants at the workshop shall include approximately 80 experts in agronomy, biogeochemistry, economics, and other fields, from across Federal agencies, states, non-governmental agencies, and academia. The draft plan for the workshop and supporting background materials for the participants to receive prior to the workshops will be supplied by the TO-COR. The workshop will take place in Washington, D.C., at the EPA's Potomac Yards facility in Crystal City, VA, on October 28-29, 2019. The period of performance of this purchase order shall be from date of award to one year thereafter.

II. Background

The U.S. Environmental Protection Agency (EPA) and the U.S. Department of Agriculture (USDA) have been working for decades to reduce nutrient losses from agricultural lands and improve water quality. Despite significant reductions in nutrient export/release from agricultural lands through voluntary programs, water quality remains a challenge in the U.S., with 34-41% of lakes and 41-46% of rivers and streams impacted by nitrogen and phosphorus.² The EPA and USDA have begun discussions to tackle this challenge by examining the potential of enhanced efficiency fertilizers (EEFs) in U.S. agriculture using non-regulatory and market-based solutions. EEFs have shown remarkable promise in test studies, maintaining or slightly increase yields while reducing nutrient losses by 10-40%.³ Despite this potential, EEFs remain underutilized in the U.S. because of cost, social barriers to adoption, and a general lack of trusted information on their performance. Building a robust EEF industry in the U.S. could have multiple

¹ The draft agenda is attached in Appendix A

² USEPA. 2016. National Lakes Assessment 2012: A Collaborative Survey of Lakes in the United States. EPA 841-R-16-113. National Rivers and Streams Assessment 2008-2009: A Collaborative Survey (EPA/841/R-16/007). Washington, DC. March 2016.

³ Li, T., et al. (2018). "Enhanced-efficiency fertilizers are not a panacea for resolving the nitrogen problem." Global Change Biology 24(2): e511-e521.

benefits, creating jobs for Americans, and maintaining our high agricultural productivity while greatly reducing its environmental footprint. The proposed multi-year, multi-agency, collaboration described here is consistent with the December 2018 Letter-4 from David P. Ross (Assistant Administrator, Office of Water, EPA) and Bill Northey (Under Secretary, Farm Production and Conservation, USDA), to work together to improve water quality while improving the efficiency of land use practices on U.S. farms.

The workshop described in this PWS will kickoff a multi-year collaboration between EPA and USDA to examine the potential for enhanced efficiency fertilizers in the U.S. The overall goal of the joint-agency collaboration is to reduce the environmental impacts from U.S. agriculture while maintaining profitability and productivity. The specific goal is to support the development of EEFs for corn that meets three goals:

- (1) is cost-effective relative to traditional fertilizers,
- (2) does not reduce yields relative to traditional practices, and
- (3) leads to significant reductions in losses of N and P to the environment.

The overall architecture by which we propose to meet these specific goals includes seven major activities:

Activity 1: Kickoff workshop. Discuss and refine the overall project architecture, with specific attention on the Joint EPA-USDA Challenge.

Activity 2: Joint EPA-USDA Challenge. Conduct a two-stage Challenge to (Stage 1) solicit submissions from interested parties (i.e. industry, academia, the public) that describe the biochemistry of an EEF either already on the market or under development, along with the environmental and agronomic performance with any preliminary data. A judging panel will be convened including representatives from government, industry, and academia, to rank and judge the submissions. Successful submissions will be invited to submit a physical amount (Stage 2) of their EEF which will be blind-tested in Activity 4 per the submittant's recommendations. Cash prize (est. \$25-50k) will be distributed to the winners of the Challenge.

Activity 3: Literature review and meta-analysis of EEFs. In parallel with Activities 1 and 2, EPA and USDA will conduct a literature review and meta-analysis of peer-reviewed information on the effectiveness of EEFs for use on corn in the U.S. Non-peer-reviewed information will be included in the literature review but not included in the meta-analyses.

Activity 4: Field Trials. Stage 2 EEF submissions will be split and sent to eight USDA ARS Long Term Agricultural Research (LTAR) stations for field testing over two years in the growing seasons for 2020 and 2021. EEFs will be applied as recommended on the submissions, provided the recommendations are consistent with common agronomic practices, and compared with a control using conventional fertilizers.

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⁴ https://www.cpa.gov/sites/production/files/2018-12/documents/andersen-kansas-joint-letter.pdf

Activity 5: Joint Report and Workshop II.⁵ Researchers from USDA and EPA will analyze the results from the two-year field trials and jointly write a report of their findings, which will be publicly released at the second Workshop. Along with the scientific results from Activity 4, Workshop II will include industry representatives and farmers interested in reducing the environmental footprint of agriculture while maintaining yields.

Activity 6: Production Trials. Farmers will be invited to participate in the effort, to grow corn with EEFs from Stage 2 with assistance on how to use them and assess performance and share their experiences with other growers at Workshop II. Depending on the farmers' risk tolerance, Activity 6 may occur in parallel or after Activity 4.

Activity 7: Outreach and Long-term Tracking. Contingent on the outcome of earlier Activities, we may develop a plan for outreach and long-term tracking. The outreach effort may include participation from Certified Crop Advisors, USDA Extension Programs, Land Grant Universities, and any other relevant organization. Outreach may also include detailed instructions, on-field training programs, online training and webinars, and other outreach material. Long-term tracking could be discussed at the fertilizer sales level (e.g. AAPFCO), application and use (e.g. NASS, ERS, etc.), or watershed-level outcome (e.g. leveraging NAWQA, NARS).

III. Scope of Work

The scope of work is to provide logistical support for a 1.5-day workshop, deliver a post-workshop report, and to write up a journal article on the effectiveness of EEFs from a database compiled from a recent USDA Contract.⁶

Task 1 - Establish Communications and develop QAPP

Within 7 days of the purchase order award, the Contractor shall convene a conference call with the TO-COR and appropriate contractor staff to confirm task deliverables and project schedule. The Contractor shall establish regular conference calls with the TO-COR to discuss progress and resolve any technical difficulties. At the beginning of the project it is likely that the calls will occur weekly as the date for the workshop is near (October 28-29) for no more than 1 hour, with a switch to monthly calls or as needed after the workshop report is delivered. Calls may include other members of the workshop Technical Steering Committee (TSC; i.e., EPA partners from other agencies/organizations) as needed at the request of the TO-COR. The Contractor shall initiate additional communication with the TO-COR should developments arise that may affect the schedule of this task order or any of the task deliverables outlined therein.

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⁵ We intend to complete Activities 1-5, and Activities 6 and 7 are optional depending on the outcome of the effort.

⁶ This was performed under USDA Contract #GS-00F-010CA; PO# 12314218F0171.

The Contractor shall prepare a Quality Assurance Project Plan (QAPP). The QAPP is only needed for Task 4. Work on Tasks 2 and 3 may begin without the QAPP. No work on Task 4 may begin without approval of the QAPP. The QAPP shall describe the application of QA and QC activities for the project under this statement of work. The QAPP shall be developed in accordance with EPA Requirements for Quality Assurance Project Plans (EPA QA/R-5, EPA/240/B-01/003, 03/20/01, available at: http://www.epa.gov/quality/qs-docs/r5-final.pdf). The Contractor shall use the following QA tracking number: B-DC-0032074-EP-1-0.

Task 2 - Pre-workshop support

Pre-workshop support from the Contractor shall include, in consultation with the TO-COR: reviewing the plan for the workshop; sending invitation materials to participants; compensating non-Federal workshop participants for travel (up to roughly \$1200 per person); and reviewing, revising, and sending background materials to the workshop participants in advance of the workshop. All materials and communications will be electronic. A draft of the workshop plan is in Appendix A and the final version will be provided by the TO-COR to the Contractor after award of the contract.

A. Review workshop facilities and equipment

The TO-COR has already reserved the venue at EPA Potomac Yards One facilities in Crystal City, VA, from Oct 28-29. The workshop is tentatively expected to last 1.5 days, beginning at 8:30 each day, which would entail two nights lodging for most participants. There are several hotels in the immediate vicinity Potomac Yards One. The room shall accommodate up to 100 participants. The TO-COR has also arranged for two smaller rooms on the second day for breakout groups. The EPA facilities manager and the TO-COR have already arranged for a projector and screen, microphone, and computer, The Contractor will provide a laser pointer, easel paper, markers, notepads (for participants), pens and pencils.

B. Confirm workshop participation

The TO-COR shall provide the Contractor with a list of proposed experts (also in the draft agenda in Appendix A). The TO-COR has already hosted several phone calls in preparation for the Workshop separately for Federal and non-Federal participants. The Contractor shall contact these experts to confirm that they are available to attend the workshop. Non-Federal participants come from three domains: industry, academia, and non-governmental organizations. The Contractor shall be responsible for making travel and lodging arrangements (or reimbursing those that choose to make their own arrangements) for non-Federal participants that we are supporting consistent with U.S. government travel, lodging, and per diem allowances. Airfare will be reimbursed at actual cost. It is anticipated that there will be approximately 15 non-Federal attendees receiving support. The contractor shall not compensate or reimburse Federal personnel.

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⁷ The location is at EPA Conference Center, Potomac Yard One, 2777 Crystal Dr, Arlington, VA 22202.

⁸ We intend to provide support for academics only, and have already discussed with industry that they will be paying their own way. For the third category (NGOs) the TO-COR will make that decision on a case-by-case basis.

C. Participant invitations and logistics

The Contractor shall be responsible for handling invitations and registration for all participants prior to the workshop. The Contractor shall submit a draft letter of invitation for review and comment by the TO-COR, after which the Contractor shall finalize the letter for use in sending email invitations. The Contractor shall email letters of invitation to each workshop participant and provide for an attendance confirmation mechanism.

Two weeks prior to the workshop, the Contractor shall send all participants packages that include a proposed agenda (developed in consultation with the TO-COR) and general information on the workshop. The contractor shall instruct the workshop participants to review the workshop material and submit comments prior to date of workshop.

Copies of all mailings shall be sent to the Contracting Officer's Representatives (COR) as well as the TO-COR for review in advance of mailing. The Contractor shall maintain a current address list of all workshop participants.

Task 3 – Onsite and post-workshop support

The Contractor shall provide on-site logistical support during the workshop and compile a post-workshop report.

A. Onsite workshop support

At the workshop, the Contractor shall: serve as liaison with meeting facility staff; register invited participants and observers; answer questions for participants and observers; assist the meeting facilitator(s); copy and distribute information generated at the workshop; and ensure that audio/visual equipment is working properly. The Contractor shall be responsible for collecting and maintaining all materials (e.g., workshop presentations, handouts) to facilitate the post-workshop report.

B. Workshop report

Two weeks after the workshop, the Contractor shall submit a draft post-workshop report, including: names and contact information for all final participants; the finalized workshop agenda; a copy of any finalized exercise(s) used at the workshop; a compilation of all presentations given at the workshop; any relevant materials submitted by participants prior to or during the workshop; and notes of the rapporteurs at the workshop, consolidated/integrated as per discussion with the TO-COR. A final report will be submitted within two weeks of receiving TO-COR comments on the draft report.

IV. SCHEDULE AND DELIVERABLES

Task	DELIVERABLES	DATE

Task 1	Establish Communications	One week after date of award
	Status Updates	Weekly followed by monthly
	Draft QAPP	Three weeks after workshop
	Final QAPP	One week after Draft QAPP
Task 2	Pre-workshop support	
	A. Review workshop facilities and equipment	Two weeks after date of award.
	B. Confirm workshop participation	Two weeks after date of award.
	C. Participant invitations and logistics	Two weeks after date of award.
Task 3	Onsite and post-workshop support	
	A. Onsite workshop support	At workshop
	B. Post-workshop report	Draft two weeks after workshop, final two
		weeks after TO-COR comments

V. Notice Regarding Guidance Provided Under This Purchase Order

Guidance is strictly limited to technical and analytical support. The contractor shall not engage in activities of an inherent governmental nature such as the following:

- (1) Formulation of Agency Policy
- (2) Selection of Agency priorities
- (3) Development of Agency regulations

Should the contractor receive any instruction from an EPA staff person that the contractor ascertains to fall into any of these categories or goes beyond the scope of the purchase order, the contractor shall immediately contact the Project Officer. The contractor shall also ensure that work under this purchase order does not contain any apparent or real personal or organizational conflict of interest. The contractor shall certify that none exists at the time the proposal is submitted to the EPA.

Appendix A: Draft Workshop Planning Document and Agenda

Proposed EPA-USDA Collaborative Effort: Improving Agricultural Nutrient Use through Enhanced Efficiency Fertilizers

<u>Problem Statement</u>: The U.S. Environmental Protection Agency (EPA) and the U.S. Department of Agriculture (USDA) have been working for decades to reduce nutrient losses from agricultural lands and improve water quality. Despite significant reductions in nutrient export/release from agricultural lands through voluntary programs, water quality remains a challenge in the U.S., with 34-41% of lakes and 41-

46% of rivers and streams impacted by nitrogen and phosphorus. The EPA and USDA have begun discussions to tackle this challenge by examining the potential of enhanced efficiency fertilizers (EEFs) in U.S. agriculture using non-regulatory and market-based solutions. EEFs have shown remarkable promise in test studies, maintaining or slightly increase yields while reducing nutrient losses by 10-40%. Despite this potential, EEFs remain underutilized in the U.S. because of cost, social barriers to adoption, and a general lack of trusted information on their performance. Building a robust EEF industry in the U.S. could have multiple benefits, creating jobs for Americans, and maintaining our high agricultural productivity while greatly reducing its environmental footprint. The proposed multi-year, multi-agency, collaboration described here is consistent with the December 2018 Letter from David P. Ross (Assistant Administrator, Office of Water, EPA) and Bill Northey (Under Secretary, Farm Production and Conservation, USDA), to work together to improve water quality while improving the efficiency of land use practices on U.S. farms. Purpose: This workshop will kickoff a multi-year collaboration between EPA and USDA to examine the potential for enhanced efficiency fertilizers in the U.S. The overall goal of the joint-agency collaboration is to reduce the environmental impacts from U.S. agriculture while maintaining profitability and productivity. The specific goal is to support the development of EEFs for corn that meets three goals:

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Activity 4: Field Trials. Stage 2 EEF submissions will be split and sent to eight USDA ARS Long Term Agricultural Research (LTAR) stations for field testing over two years in the growing seasons for 2020 and 2021. EEFs will be applied as recommended on the submissions, provided the recommendations are consistent with common agronomic practices, and compared with a control using conventional fertilizers.

Activity 5: Joint Report and Workshop II.¹² Researchers from USDA and EPA will analyze the results from the two-year field trials and jointly write a report of their findings, which will be publicly released at the second Workshop. Along with the scientific results from Activity 4, Workshop II will include industry representatives and farmers interested in reducing the environmental footprint of agriculture while maintaining yields.

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⁹ USEPA. 2016. National Lakes Assessment 2012: A Collaborative Survey of Lakes in the United States. EPA 841-R-16-113. National Rivers and Streams Assessment 2008-2009: A Collaborative Survey (EPA/841/R-16/007). Washington, DC. March 2016.

¹⁰ Li, T., et al. (2018). "Enhanced-efficiency fertilizers are not a panacea for resolving the nitrogen problem." Global Change Biology 24(2): e511-e521.

¹¹ https://www.epa.gov/sites/production/files/2018-12/documents/andersen-kansas-joint-letter.pdf

¹² We intend to complete Activities 1-5, and Activities 6 and 7 are optional depending on the outcome of the effort.

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Activity 7: Outreach and Long-term Tracking. Contingent on the outcome of earlier Activities, we may develop a plan for outreach and long-term tracking. The outreach effort may include participation from Certified Crop Advisors, USDA Extension Programs, Land Grant Universities, and any other relevant organization. Outreach may also include detailed instructions, on-field training programs, online training and webinars, and other outreach material. Long-term tracking could be discussed at the fertilizer sales level (e.g. AAPFCO), application and use (e.g. NASS, ERS, etc.), or watershed-level outcome (e.g. leveraging NAWQA, NARS).

The proposed timeline for the above Activities is in Figure 1.

Figure 1: Proposed timeline for the key Activities

10.37 000		FY	'19			FY	20			FY	21			FY	22			FY	23			FY	24	
Major Activity	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Assemble teams																								
Kickoff workshop																								
Lit Review and Meta																								
EPA-USDA Challenge																								
Experiemental Trials																								
Production Trials																								
Joint Report Dev																								
Workshop II / Report																								
Outreach																								

Note: The cell highlighted in red is the required planting date to meet the goal of having two years of data complete by the end of 2021.

Details for Activity 1: Kickoff Workshop

<u>Charge for this workshop</u>: There are two primary charges for the workshop: (1) discuss and modify the overall architecture and sequence of the Activities, and (2) refine and finalize language for the EPA-USDA Challenge.¹³

Output: There are two outputs from the workshop related to the two Charges: (1) Development of the "Project Roadmap" describing the overall architecture and sequence of Activities for this collaborative effort, (2) Final decisions for the Joint EPA-USDA Challenge.

Timeframe: October 28-29, 2019.

Location: EPA Conference Center, Potomac Yard One, 2777 Crystal Dr, Arlington, VA 22202

Participants: See Table 1.

Proposed Workshop Agenda: See Table 2

<u>Post-Workshop Activities:</u> Subsequent activities will follow the revised "Project Roadmap," (draft in Appendix I) but we anticipate short term activities to include: (1) conducting the Joint EPA-USDA Challenge, (2) initiating plans for Activity 4 scheduled for the 2020 field season, and (3) continuing/accelerating the literature review and meta-analysis of EEFs and corn in the U.S.

¹³ Subsequent meetings with interested parties will focus on other components of the project (e.g. review of Challenge submissions, development of field protocols for Activity 4, etc.)

Table 1: Proposed participants for the workshop (*invited, **confirmed), sorted alphabetically by Fed/Non, Agency, Office, Name.

Name	Fed/Non	Agency/Organization	Office	email
Daniel Northrup	Fed	DOE	ARPA-E	daniel.northrup@hq.doe.gov
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Alan Blaylock				
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	Non-Fed	Industry Industry Industry	Nutrien OCI Nitrogen	Ethan.Enochs@microSourceLLC.com alan.blaylock@nutrien.com steven.liebelt@n-7llc.com
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Taylor Pursell Terry Tindall Bill Easterwood Bob O'Leary	Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed	Industry Industry Industry Industry Industry Industry	Nutrien OCI Nitrogen Pursell Technology Simplot Yara CF Industries	Ethan Enochs@microSourceLLC.com alan.blaylock@nutrien.com steven.liebelt@n-7ll.c.om taylor@fertilizer.com Terry.Tindall@simplot.com bill.easterwood@yara.com ROleary@cfindustries.com
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Taylor Pursell Terry Tindall Bill Easterwood Bob O'Leary Thomas Mannheim X Alison Eagle Nathan Fields	Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed	Industry Industry Industry Industry Industry Industry Industry Industry Industry Non-profit Non-profit Non-profit	Nutrien OCI Nitrogen Pursell Technology Simplot Yara CF Industries Eurochem Crop Life? EDF NCGA	Ethan.Enochs@microSourceLLC.com alan.blaylock@nutrien.com steven.liebelt@n-7ll.com taylor@fertilizer.com Terry.Tindall@simplot.com bill.easterwood@yara.com ROleary@cfindustries.com Thomas.Mannheim@eurochemgroup.com aeagle@edf.org fields@ncga.com
Taylor Pursell Terry Tindall Bill Easterwood Bob O'Leary Thomas Mannheim X Alison Eagle Nathan Fields Colleen Willard	Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed	Industry Industry Industry Industry Industry Industry Industry Industry Non-profit Non-profit Non-profit Non-profit	Nutrien OCI Nitrogen Pursell Technology Simplot Yara CF Industries Eurochem Crop Life? EDF NCGA NCGA	Ethan.Enochs@microSourceLLC.com alan.blaylock@mutrien.com steven.liebelt@n-7ll.com taylor@fertilizer.com Terry.Tindall@simplot.com bill.easterwood@yara.com BOleary@cfindustries.com Thomas.Mannheim@eurochemgroup.com aeagle@edf.org fields@ncga.com willard@ncga.com
Taylor Pursell Terry Tindall Bill Easterwood Bob O'Leary Thomas Mannheim X Alison Eagle Nathan Fields Colleen Willard Lara Moody	Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed	Industry Industry Industry Industry Industry Industry Industry Industry Non-profit Non-profit Non-profit Non-profit Non-profit Non-profit	Nutrien OCI Nitrogen Pursell Technology Simplot Yara CF Industries Eurochem Crop Life? EDF NCGA NCGA TFI	Ethan.Enochs@microSourceLLC.com alan.blaylock@nutrien.com steven.liebelt@n-7ll.c.com taylor@fertilizer.com Terry.Tindail@simplot.com bill.easterwood@yara.com ROleary@cfindustries.com Thomas.Mannheim@eurochemgroup.com aeaple@edf.org fields@ncga.com willard@ncga.com Impody@df.org
Taylor Pursell Terry Tindall Bill Easterwood Bob O'Leary Thomas Mannheim X X Ison Eagle Nathan Fields Colleen Willard Lara Moody Sally Flis	Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed	Industry Inon-profit Non-profit Non-profit Non-profit Non-profit Non-profit Non-profit Non-profit Non-profit Non-profit	Nutrien OCI Nitrogen Pursell Technology Simplot Yara CF Industries Eurochem Crop Life? EDF NCGA NCGA TFI	Ethan.Enochs@microSourceLLC.com alan.blaylock@nutrien.com steven.liebelt@n-7ll.c.com taylor@fertilizer.com Terry.Tindall@simplot.com bill.easterwood@yara.com RCleary@cfindustries.com Thomas.Mannheim@eurochemgroup.com aeagle@edf.org fields@ncga.com willard@ncga.com lmoody@tfi.org sfils@tfi.org
Taylor Pursell Terry Tindall Bill Easterwood Bob O'Leary Thomas Mannheim X Alison Eagle Nathan Fields Colleen Willard Lara Moody	Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed	Industry Industry Industry Industry Industry Industry Industry Industry Non-profit Non-profit Non-profit Non-profit Non-profit Non-profit	Nutrien OCI Nitrogen Pursell Technology Simplot Yara CF Industries Eurochem Crop Life? EDF NCGA NCGA TFI	Ethan.Enochs@microSourceLLC.com alan.blaylock@nutrien.com steven.liebelt@n-7ll.c.com taylor@fertilizer.com Terry.Tindail@simplot.com bill.easterwood@yara.com ROleary@cfindustries.com Thomas.Mannheim@eurochemgroup.com aeaple@edf.org fields@ncga.com willard@ncga.com Impody@df.org
Taylor Pursell Terry Tindall Bill Easterwood Bob O'Leary Thomas Mannheim X Alison Eagle Nathan Fields Colleen Willard Lara Moody Sally Flis Carrie Vollmer-sanders	Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed	Industry Industry Industry Industry Industry Industry Industry Industry Non-profit	Nutrien OCI Nitrogen Pursell Technology Simplot Yara CF Industries Eurochem Crop Life? EDF NCGA NCGA TFI TFI TNC	Ethan Enochs@microSourceLLC.com alan.blavlock@mutrien.com steven.liebeti@m-7ilc.com tavlor@fertilizer.com Terry.Tindall@simplot.com bill.easterwood@yara.com ROleary@cfindustries.com Thomas.Mannheim@eurochemsroup.com aeagle@edf.org fields@ncga.com willard@ncga.com lmoodv@tfi.org stils@fi.org csanders@tn.org
Taylor Pursell Terry Tindall Bill Easterwood Bob O'Leary Thomas Mannheim X Alison Eagle Nathan Fields Colleen Willard Lara Moody Sally Fils Carrie Vollmer-sanders Pipe Elias	Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed	Industry Industry Industry Industry Industry Industry Industry Industry Non-profit	Nutrien OCI Nitrogen Pursell Technology Simplot Yara CF Industries Eurochem Crop Life? EDF NCGA NCGA TFI TFI TFI TTNC TNC	Ethan Enochs@microSourceLLC.com alan.blavlock@mutrien.com steven.liebeti@m-7ilc.com tavlor@fertilizer.com Terry.Tindall@simplot.com bill.easterwood@yara.com ROleary@cfindustries.com Thomas.Wannheim@eurochemgroup.com aeagle@edf.org fields@ncga.com willard@hcga.com Imoody@tfi.org stils@tfi.org csander.@tn.org pipa_ellas@tnc.org pipa_ellas@tnc.org bookins@byu.edu Jim.ippolito@ColoState.edu
Taylor Pursell Terry Tindall Bill Easterwood Bob O'Leary Thomas Mannheim X Alison Eagle Nathan Fields Colleen Willard Lara Moody Sally Fils Carrie Vollmer-sanders Pipa Elias Bryon Hopkins Jim Ippolito Charles Rice	Non-Fed Non-Fed	Industry Non-profit Non-profit Non-profit Non-profit Non-profit Non-profit Non-profit Non-profit University University University	Nutrien OCI Nitrogen Pursell Technology Simplot Yara CF Industries Eurochem Crop Life? EDF NCGA NCGA NCGA TFI TFI TFI TNC TNC BYU Colorado State University Kansas State University	Ethan Enochs@microSourceLLC.com alan.blaylock@nutrien.com steven.liebelt@n-7lic.com taylor@fertilizer.com Terry.Tindall@simplot.com bill.easterwood@yara.com ROleary@cfindustries.com Thomas.Mannheim@eurochemgroup.com aeagle@edf.org fields@ncga.com willard@ncga.com impody@tfi.org sfils@tfi.org sfils@tfi.org csanders@tnc.org pipe.elias@tnc.org pipe.elias@tnc.org pipe.elias@tnc.org popkins@byu.edu jimi.poplito@ColoState.edu cwrice@ksu.edu
Taylor Pursell Terry Tindall Bill Easterwood Bob O'Leary Thomas Mannheim X X Alison Eagle Nathan Fields Colleen Willard Lara Moody Sally Flis Carrie Vollmer-sanders Pipa Elias Bryon Hopkins Jim Ippolito Charles Rice Dustin Harrell	Non-Fed Non-Fed	Industry Ind	Nutrien OCI Nitrogen Pursell Technology Simplot Yara CF Industries Eurochem Crop Life? EDF NCGA NCGA TFI TFI TNC TNC BYU Colorado State University Louisiana State University Louisiana State University	Ethan.Enochs@microSourceLLC.com alan.Dlaylock@nutrien.com steven.liebelt@n-7ll.c.com taylor@fertilizer.com Terry.Tindall@simplot.com bill.easterwood@yara.com ROleary@cfindustries.com Thomas.Mannheim@eurochemgroup.com aeagle@edf.org fields@noga.com willard@noga.com Immoody@tfi.org sfils@tfi.org csanders@tnc.org pipa.elias@tnc.org pipa.elias@tnc.org hopkins@byu.edu Jim.lppolito@cloState.edu cwrice@ksu.edu DHarrell@agcenter.lsu.edu
Taylor Pursell Terry Tindail Bill Easterwood Bob O'Leary Thomas Mannheim X Alison Eagle Nathan Fields Colleen Willard Lara Moody Sally Flis Carrie Vollmer-sanders Pipa Elias Bryon Hopkins Jim Ippolito Charles Rice Dustin Harrell Bobby Golden	Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed Non-Fed	Industry Ind	Nutrien OCI Nitrogen Pursell Technology Simplot Yara CF Industries Eurochem Crop Life? EDF NCGA NCGA TFI TFI TNC TNC BYU Colorado State University Kansas State University Mississippi State University Mississippi State University	Ethan Enochs@microSourceLLC.com alan.blavlock@mutrien.com steven.liebeti@m-7ilc.com tavlor@fertilizer.com Terry.Tindall@simplot.com bill.easterwood@yara.com ROleary@cfindustries.com Thomas.Mannheim@eurochemgroup.com aeagle@edf.org fields@ncga.com willard@ncga.com willard@ncga.com moodv@tfi.org stils@fi.org csander.@tn.corg pipa.elas@tn.corg pipa.elas@tn.corg hopkins@byu.edu Jim.jppolito@ColoState.edu cwrice@ksu.edu DHarrell@agcenter.lsu.edu bobby.golden@msstate.edu
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Taylor Pursell Terry Tindall Bill Easterwood Bob O'Leary Thomas Mannheim X Alison Eagle Nathan Fields Colleen Willard Lara Moody Sally Fils Carrie Vollmer-sanders Pipa Elias Bryon Hopkins Jim Ippolito Charles Rice Dustin Harrell Bobby Golden David Kanter Katie Lewis Josh McGrath Eric Davidson	Non-Fed Non-Fe	Industry Ind	Nutrien OCI Nitrogen Pursell Technology Simplot Yara CF Industries Eurochem Crop Life? EDF NCGA NCGA NCGA TFI TFI TFI TNC TNC TNC BYU Colorado State University Kansas State University Louisiana State University Nississippi State University New York University Texas A&M University of Kentucky University of Kentucky University of Manyland	Ethan Enochs@microSourceLLC.com alan.blaylock@nutrien.com steven.liebelt@m-Tilc.com taylor@fertilizer.com Terry.Tindall@simplot.com bill.easterwood@yara.com ROleary@cfindustries.com Thomas.Mannheim@eurochemgroup.com aeagle@edf.org fields@ncga.com willard@ncga.com willard@ncga.com impody@tfi.org sfils@fil.org csanders@tnc.org pipa.elias@tnc.org pipa.elias@tnc.org pipa.elias@tnc.org pipa.elias@tnc.org pipa.elias@tnc.org bopkins@byu.edu Uhiarrell@agcenter.lsu.edu Daterell@agcenter.lsu.edu bobby.golden@msstate.edu david.kanter@nyu.edu katie.lewis@as.tamu.edu josh.mcgrath@uky.edu edavids.no@umces.edu
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Table 2: Draft Agenda for Workshop I

Day 1: Monday October 28, 2019. Conference Center, Potomac Yard One, 2777 Crystal Dr, Arlington, VA 22202

Time	Theme	Topic	Speaker
8:30 - 8:40		Welcome and workshop logistics	Clark
8:40 - 8:55		Welcome, Introduction, and Charge for	TBD: Dunlap/OW/van
		the Workshop	Drunicks
8:55 – 9:10	Welcome and	USDA perspective	Hohenstein
9:10 - 9:35	Overview	NCGA perspective	TBD: Nathan
	Overview	7 7	Fields/Colleen Willard
9:35-9:50		TFI perspective	Moody
9:50-10:05		Overview of the chemistry and	Jaglo
		effectiveness of EEFs	
10:05 - 10:20		Break and snack	
10:20 - 10:50	D	Overview of the Project	Clark
10:50 - 11:00	Project overview and Breakout	Clarifying questions	All
11:00 - 12:00		Breakout groups and charge questions ¹⁴	All
12:00 - 12:30	Group 1	Report out from breakouts	All
12:30-1:30	Lunch		
1:30-1:40		Report out on changes to project	Clark
		structure	
1:40 - 2:00	Review of EEF	Research talk 1	Venterea/Delgado?
2:00-2:20	chemistry,	Research talk 2	Kelly Nelson?
2:20-2:40	agronomics, and	Research talk 3	X?
	effectiveness		
2:40-2:55		Break	
2:55-3:10		Opportunities and barriers to adoption 1:	Rodger Classen?
	Opportunities and	Socioeconomics	
3:10-3:25	barriers to	Opportunities and barriers to adoption 2:	Retailer/Farmer?
	adoption and use	Logistics (distribution and farm-level)	
3:25-3:40	of EEFs	Opportunities and barriers to adoption 3:	Moody
		Production (at the fertilizer plant)	
3:40-4:00		Overview of the PRIA permitting	OCSPP
	Pertinent state	process	
4:00-4:20	and federal	Overview of state policies	AAPFCO rep.
4:20-4:40	policies	Overview of the PRIA permitting	Moody
		experience	A-100
4:40-5:00	Wrap-up	Day 1 wrap-up and plan for Day 2	Clark
5:00-7:00		Happy Hour – Location TBD	

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¹⁴ Note that breakout groups will be organized by groups of activity (see below) with mixed composition (i.e. across industry, government, academia, etc.) to encourage cross-fertilization of ideas.

Day 2: Tuesday October 29, 2019. Potomac Yard One, 2777 Crystal Dr, Arlington, VA 22202

CD2			
8:30-8:50		Everglades Foundation	???
8:50-9:20		Plenary: Overview of Stage 1 (Concept	Clark
		papers) and Stage 2 (field trials)	
9:20-9:30	The Value of	Clarifying questions, group discussion	
9:30-11:30	Challenges	Separate breakout groups and charge	All
	***	questions.	
11:30-12:00		Breakout groups report	All
12:00-12:15		Group Discussion	
12:15-1:15	Lunch		
1:15-1:30		Revisions to Stage 1 and 2	Clark
1:30-3:30		Several options: Partnering with "early-	
	Extra time - TBD	adopter" farmers, collecting data on EEF	
	Extra time - TDD	use, long term tracking of watershed-	
		level effects (e.g. Phases 5-6)	

Charge Questions for Breakout Groups

Breakout 1: Overview of the Project (11-12 am, Day 1)

- Group 1&2: Overall and Activities 3
 - 1. What strengths and weaknesses do you see from the overall project structure and goals?
 - 2. The literature review and meta-analysis will attempt to focus on <u>peer reviewed</u> published results from <u>field trials</u> growing <u>corn</u> in the <u>U.S.</u> comparing EEFs (e.g. nitrification inhibitors, urease inhibitors, polymer coated fertilizers for N and N&P) with traditional fertilizers. What do you think about constraining the effort to peer-reviewed field trials on corn in the US? (i.e. should we expand to nonpeer reviewed papers, lab/greenhouse trials, crops other than corn, trials outside of the U.S.). Please comment on each.
 - 3. The literature review and meta-analysis will attempt to focus on five measures of environmental performance (i.e. nitrate and phosphorus leaching, runoff, ammonia volatilization, nitrous oxide production, toxicity of residue and leachate/runoff), and four measures of agronomic performance (i.e. yield, cost, compatibility with existing practices and machinery, other storage and transport logistics). Any comments on that plan?
 - 4. How do you recommend we utilize the results from the literature review in the Challenge (and vice versa)?
 - 5. Are there any connections with other Activities that you think we should strengthen?
- Group 3&4: Overall and Activity 6
 - 1. What strengths and weaknesses do you see from the overall project structure (i.e. Activities 1-7)?
 - 2. How important are production field trails overall, and if important, do you think they should be in parallel with or after the Federal field trials in Activity 4 (or is that up to the farmers to decide)?
 - 3. How do you recommend we reach out to potentially interested farmers and who (or what groups) do you think may be potentially interested?
 - 4. For the production field trials, we may not be able to collect as much data as with Activity 4, and the plan was to simply focus on yield and conduct a voluntary survey of farmers' experiences. ¹⁵ Any comments?
 - 5. For the production field trials, it may be possible to deploy DOE/ARPA-E developed sensors to individual farmers, what do you see are the strengths and weaknesses of that possibility?
 - 6. Are there any connections with other Activities that you think we should strengthen?
- Group 5&6: Overview, Activity 7, and Opportunities
 - 1. What strengths and weaknesses do you see from the overall project structure (i.e. Activities 1-7)?
 - 2. Who (or what group(s)) do you think should conduct the outreach activities discussing the results of the effort and recommendations for farmers (e.g. EPA, USDA, extension programs, land grand universities, certified crop advisors, fertilizer companies?), and how do you recommend it be conducted (online tutorials, in person training, farmer visits)?
 - 3. <u>How</u> do you recommend information be collected (and by <u>whom</u>) on EEF <u>sales</u>, use, and effects moving forward? Please comment on each.

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¹⁵ There is also a possibility for deployment of ARPA-E "farm arrays," (Q5) but that is more uncertain.

- 4. What do you see as the key barriers to adoption of EEFs for growing corn in the U.S. and what are the opportunities to overcome them?
- 5. How do you envision EEFs fitting into a larger scheme of conservation practices (e.g. tillage practices, buffer strips)?
- 6. Are there any connections with other Activities that you think we should strengthen?

Breakout 2: Challenge and Field Trials (9:30 – 11:30 am, Day 2)

- Groups of 5-8 people?: Challenge (please review the Competition Information, Criteria, and Guidelines document).
 - 1. Are the goals of the Challenge appropriate and clear?
 - 2. How important are the explicit incentives for participation in the Challenge (i.e. cash prize and invitation to the second workshop) and do you recommend any changes to the incentives whether explicit or implicit?
 - 3. There are two required criteria for the Challenge: agronomic performance (i.e. measured as yields and cost competitiveness) and environmental performance (Reduce nutrient losses of N and/or P to the environment, by reductions in one or more pathways including to surrounding waterways (i.e. runoff, leaching), or to the atmosphere (i.e. ammonia volatilization, nitrous oxide production). Any comments on those?
 - 4. There are four additional desirable characteristics, the EEF should: (1) be compatible with existing farm machinery and practices, (2) leave no toxic residues on or in the soil following use, (3) be affordable relative to conventional practices (with or without yield increases and/or offset payments, e.g. from EQIP), (4) be safe to transport, store, and use. Any comments on these?
 - 5. Any comments on the scoring sheet and how should scores across performance metrics be aggregated (or should they be)?
 - 6. Any other comments on the Challenge Criteria document?
- Groups of 5-8 people: Field Trials
 - 1. What do you think of testing at eight LTAR sites that represent corn areas in the U.S. (i.e. list them here)?
 - 2. Do you think supplemental testing at land grant universities should be explored and if so how?
 - 3. The FIFRA permitting process applies to inhibitor-type EEFs (i.e. nitrification inhibitors and urease inhibitor). Polymer-coating type EEFs (slow release fertilizers) are exempt from FIFRA. A waiver from Experimental Use Permits (EUP) under FIFRA is allowed if the total area for field trials does not exceed 10 acres in a watershed. This must be kept in mind when designing the field trials (e.g. number of plots, size of plots, replicates, treatments, etc.). What are your thoughts on planning to keep the total area tested below 10 acres within a watershed
 - 4. Given #3, in each of the test sites what do you recommend in terms of the number of plots, size of plots, number of treatments (i.e. different fertilizer levels and frequencies, different tillage practices, etc.). Note that one of the recommended treatments must be the recommendation from the EEF producer, though others are allowed in addition. Also note that the 10 acre limit does not apply to the control plots where no EEF is applied.
 - 5. What instrumentation is currently available at LTAR test sites (and land grant universities if deemed advantageous), and how should it be deployed and/or supplemented?

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¹⁶ For example, assuming a plot size of 100 x 100m (1 ha), with five different EEFs to test, there could only be two plots per EEF (so either one treatment with two replicates, or two different treatments (e.g. 100% recommended level, 50% recommended level) with zero replication). Thus, it may be that he plots have to be relatively small to include various factors of interest.

- 6. Should all eight LTAR sites have exactly the same treatments (or at least a subset that are common), or should they be modified to account for different locally recommended practices from extension programs?
- 7. Laboratory or greenhouse tests are also exempt from the EUP under FIFRA. We have decided not to include laboratory or greenhouse tests because (1) field results are more comparable to farm-scale results, and (2) limited resources. However, given that we are likely to miss the 2020 planting date due to time constraints, perhaps we should build in laboratory or greenhouse tests for the summer of 2020 with the field campaign the summers of 2021-2022. Thoughts?
- 8. Any other comments on the field trials?

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2. AMENDMENT/MODIFICATION NUMBER 3. EFFECTIVE DATE 08/13/2020 6. ISSUED BY CODE 7. ADMINISTERED BY (If other OMS/ARM/OAS/Policy, Training and Oversight Division US Environmental Protection Agency, Mail Code 3802R 1200 Pennsylvania Avenue, NW Washington, DC 20004 8. NAME AND ADDRESS OF CONTRACTOR (Number, street, county, State and ZIP Code) (X)	9B. DATED (SEI	EITEM 11) TION OF CONTI	RACT/ORE	DER NUMBER			
CODE						10. 0. 50.7	933
	11. THIS ITE	M ONLY APPLIES TO	AMENDMENTS OF S	OLICITATIONS			
or (c) By separa RECEIVED AT by virtue of this communication	ate letter or electronic communication which in THE PLACE DESIGNATED FOR THE RECE amendment you desire to change an offer all makes reference to the solicitation and this a TING AND APPROPRIATION DATA (If require	ncludes a reference to the sol EIPT OF OFFERS PRIOR TO ready submitted, such change mendment, and is received p	icitation and amendment num THE HOUR AND DATE SPE e may be made by letter or ele rior to the opening hour and d	bers. FAILURE OF YO ECIFIED MAY RESULT I ectronic communication, late specified.	UR ACKNOWLE IN REJECTION (provided each le	DGMENT OF YOUR	TO BE OFFER. If
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X	B. THE ABOVE NUMBERED CONTRACT/(appropriation data, etc.) SET FORTH IN	ORDER IS MODIFIED TO RE ITEM 14, PURSUANT TO TH	FLECT THE ADMINISTRATI HE AUTHORITY OF FAR 43.1	VE CHANGES (such as 103(b).	changes in payi	ng office,	
			NT TO AUTHORITY OF:		· * · · · · · · · · · · · · · · · · · ·		
	D. OTHER (Specify type of modification and	autnority)			· · · · · · · · · · · · · · · · · · ·		
						ng office	
This contra 4.2105, red Telecomm	act/order is being modified in acq quiring contracting officers to inc unications and Video Surveillan	cordance with the ap lude FAR clause 52. ce Services or Equip	plicability instructions 204-25, Prohibition o ment.	s in interim FAR (on Contracting for	Case 2019-0 r Certain	009, an	d FAR
Except as provi	ded herein, all terms and conditions of the do	cument referenced in Item 9A	or 10A, as heretofore change	ed, remains unchanged	and in full force	and effect.	
							•
			Raoul D. Scott, Dire	ctor Policy, Train	ing and Ove	ersight I	Division
15B. CONTRA	CTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF A		RAOUL SCOTT 1:40:17 -04'00'	16C. DA	TE SIGNED
(S	ignature of person authorized to sign)		(Signature	of Contracting Officer)			

52.204-25 Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.

As prescribed in 4.2105(b) and in the applicability instructions in interim FAR Case 2019-009, insert the following clause:

Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment (Aug 2020)

(a) <u>Definitions</u>. As used in this clause—

Backhaul means intermediate links between the core network, or backbone network, and the small subnetworks at the edge of the network (e.g., connecting cell phones/towers to the core telephone network). Backhaul can be wireless (e.g., microwave) or wired (e.g., fiber optic, coaxial cable, Ethernet).

Covered foreign country means The People's Republic of China.

Covered telecommunications equipment or services means—

- (1) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities);
- (2) For the purpose of public safety, security of Government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities);
- (3) Telecommunications or video surveillance services provided by such entities or using such equipment; or
- (4) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

Critical technology means-

- (1) Defense articles or defense services included on the United States Munitions List set forth in the International Traffic in Arms Regulations under subchapter M of chapter I of title 22, Code of Federal Regulations;
- (2) Items included on the Commerce Control List set forth in Supplement No. 1 to part 774 of the Export Administration Regulations under subchapter C of chapter VII of title 15, Code of Federal Regulations, and controlled-

- (i) Pursuant to multilateral regimes, including for reasons relating to national security, chemical and biological weapons proliferation, nuclear nonproliferation, or missile technology; or
 - (ii) For reasons relating to regional stability or surreptitious listening;
- (3) Specially designed and prepared nuclear equipment, parts and components, materials, software, and technology covered by part 810 of title 10, Code of Federal Regulations (relating to assistance to foreign atomic energy activities);
- (4) Nuclear facilities, equipment, and material covered by part 110 of title 10, Code of Federal Regulations (relating to export and import of nuclear equipment and material);
- (5) Select agents and toxins covered by part 331 of title 7, Code of Federal Regulations, part 121 of title 9 of such Code, or part 73 of title 42 of such Code; or
- (6) Emerging and foundational technologies controlled pursuant to section 1758 of the Export Control Reform Act of 2018 (50 U.S.C. 4817).

Interconnection arrangements means arrangements governing the physical connection of two or more networks to allow the use of another's network to hand off traffic where it is ultimately delivered (e.g., connection of a customer of telephone provider A to a customer of telephone company B) or sharing data and other information resources.

Reasonable inquiry means an inquiry designed to uncover any information in the entity's possession about the identity of the producer or provider of covered telecommunications equipment or services used by the entity that excludes the need to include an internal or third-party audit.

Roaming means cellular communications services (e.g., voice, video, data) received from a visited network when unable to connect to the facilities of the home network either because signal coverage is too weak or because traffic is too high.

Substantial or essential component means any component necessary for the proper function or performance of a piece of equipment, system, or service.

(b) Prohibition. (1) Section 889(a)(1)(A) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2019, from procuring or obtaining, or extending or renewing a contract to procure or obtain, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. The Contractor is prohibited from providing to the Government any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104.

- (2) Section 889(a)(1)(B) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2020, from entering into a contract, or extending or renewing a contract, with an entity that uses any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104. This prohibition applies to the use of covered telecommunications equipment or services, regardless of whether that use is in performance of work under a Federal contract.
 - (c) Exceptions. This clause does not prohibit contractors from providing—
- (1) A service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or
- (2) Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.
 - (d) Reporting requirement.
- (1) In the event the Contractor identifies covered telecommunications equipment or services used as a substantial or essential component of any system, or as critical technology as part of any system, during contract performance, or the Contractor is notified of such by a subcontractor at any tier or by any other source, the Contractor shall report the information in paragraph (d)(2) of this clause to the Contracting Officer, unless elsewhere in this contract are established procedures for reporting the information; in the case of the Department of Defense, the Contractor shall report to the website at https://dibnet.dod.mil. For indefinite delivery contracts, the Contractor shall report to the Contracting Officer for the indefinite delivery contract and the Contracting Officer(s) for any affected order or, in the case of the Department of Defense, identify both the indefinite delivery contract and any affected orders in the report provided at https://dibnet.dod.mil.
- (2) The Contractor shall report the following information pursuant to paragraph (d)(1) of this clause
- (i) Within one business day from the date of such identification or notification: the contract number; the order number(s), if applicable; supplier name; supplier unique entity identifier (if known); supplier Commercial and Government Entity (CAGE) code (if known); brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.
- (ii) Within 10 business days of submitting the information in paragraph (d)(2)(i) of this clause: any further available information about mitigation actions undertaken or recommended. In addition, the Contractor shall describe the efforts it undertook to prevent use or submission of covered telecommunications equipment or services, and any additional efforts that will be incorporated to prevent future use or submission of covered telecommunications equipment or services.

(e) *Subcontracts*. The Contractor shall insert the substance of this clause, including this paragraph (e) and excluding paragraph (b)(2), in all subcontracts and other contractual instruments, including subcontracts for the acquisition of commercial items.

(End of clause)

		OI	RDER FOR S	UPPLIES OR SEI	RVICES				PAGE	OF PAGES			
IMPORTANT:	Mark all	packages and papers with	contract and/or	order numbers.					1	2			
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3. ORDER NO.			4 PEOUSITION	I/REFERENCE NO.									
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26 West	Marti	n Luther King D	rive										
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ORDER FOR SUPPLIES OR SERVICES SCHEDULE - CONTINUATION

PAGE NO

2

 IMPORTANT: Mark all packages and papers with contract and/or order numbers.

 DATE OF ORDER 10/22/2019
 CONTRACT NO.
 ORDER NO.

 68HERC19D0003
 68HERC20F0028

ITEM NO.	SUPPLIES/SERVICES	QUANTITY ORDERED		UNIT PRICE	AMOUNT	QUANTITY
(a)	(b)	(c)	(d)	PRICE (e)	(f)	ACCEPTEI (g)
	Admin Office:					
	CAD					
	US Environmental Protection Agency					
	26 West Martin Luther King Drive					
	Mail Code: W136					
	Cincinnati OH 45268-0001					
	Accounting Info:					
	19-20-C-26US000-000FK8XPW-2532-26A6A-1926USE					
	071-001 BFY: 19 EFY: 20 Fund: C Budget Org:					
	26US000 Program (PRC): 000FK8XPW Budget					
	(BOC): 2532 Cost: 26A6A DCN - Line ID:					
	1926USE071-001					
	Period of Performance: 10/22/2019 to					
	10/21/2020					
001	ORD/NERL/SED/EFAB, Tulve. Funding for the				39,517.00	
001	New HHRA Contract, TO-0020, Dust and Soil				33,311.00	
	Ingestion. Task Order on the Human Health					
	and Risk Assessment Contract. Contract #:					
	TBD. TOCOR: Nicolle Tulve. Estimated POP:					
	08/15/2019 to 09/30/2020. Contracting					
	Office: CAD. Contracting Officer: William					
	Yates. CLCOR: Melissa Revely-Wilson.					
	Cost/Org: 26A6A RAP Extramural. EFAB refers					
	to Environmental Futures Analysis Branch.					
			1			

Statement of Work

Contractor Name: ICF, Inc.

Task Order Title: Support for America's Children and the Environment

I. Background, Purpose and Scope

America's Children and the Environment (ACE) is EPA's compilation of children's environmental health indicators. ACE presents available data to report on trends and status of important factors related to children's environmental health, with indicators in three categories: Environments and Contaminants; Biomonitoring; and Health.

The ACE indicators are periodically updated on the Agency's public website at www.epa.gov/ace, providing easy access to all of the ACE content, along with supporting detailed technical documentation. Several of the indicators are also published annually in the interagency *America's Children* report, available at childstats.gov.

The contractor provided support for ACE under a previous contract (GS-00F-010CA_EP-G16H-01019), including calculation of updated indicator values for existing ACE indicators and editing ACE website files to incorporate updated indicator values that were computed since the prior website update was completed in 2017. All relevant website files have been edited in 2019, but the 2019 revisions have not yet been published to the public website. The purpose of this task assignment is to provide additional support for updating the ACE website, and support for updates to selected existing children's environmental health indicators.

Task 1: Within 3 days of the TO award, the Contractor shall schedule a conference call (not to exceed 1 hour) with the TO Contracting Officer Representative (TOCOR) and other EPA staff and any appropriate contractor staff to clarify outstanding questions and confirm the schedule of specific tasks. Copies of all correspondence pertaining to the performance of this TO shall be sent to the L-COR.

Task 2: Support for ACE website and indicator updates

The contractor shall edit website text, graphics and supporting background documents, as requested by the TO-COR. On a date to be specified by the TO-COR, the contractor shall publish all updated content to the public ACE website.

The contractor shall provide updated values (incorporating data for the year 2018) for the following indicators from *America's Children and the Environment* and *America's Children*: asthma prevalence, and neurodevelopmental disorders. Updated indicator values shall be provided in Excel spreadsheets.

Deliverables and due dates:

- 2a. Publish updates to the public ACE website: on date to be specified by the TO-COR2b. Asthma and neurodevelopmental disorders indicators update: 11/20/19

AMENDMENT OF SOLICITATION/MODIFICA	ATION OF CONTRACT		CONTRACT ID CODE	PAC	GE OF PAGES
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. RE	UUISITION/PURCHASE REQ. NO.	5. PROJE	CT NO. (If applicable)
P00001	See Block 16C				, , , , , , , , , , , , , , , , , , , ,
6. ISSUED BY CODE	CAD	7. AD	OMINISTERED BY (If other than Item 6)	CODE	
CAD US Environmental Protection 26 West Martin Luther King D Mail Code: W136 Cincinnati OH 45268-0001				_	
8. NAME AND ADDRESS OF CONTRACTOR (No., street,	county. State and ZIP Code)	9/	A. AMENDMENT OF SOLICITATION NO.		
ICF Incorporated, L.L.C. Attn: Robert Toth 9300 LEE HIGHWAY FAIRFAX VA 220316050		91 × 10 6	B. DATED (SEE ITEM 11) DA. MODIFICATION OF CONTRACT/ORDE 8 HERC 1 9 D 0 0 0 3 8 HERC 2 0 F 0 0 2 8	ER NO.	
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15A. NAME AND TITLE OF SIGNER (Type or print)			NAME AND TITLE OF CONTRACTING C	OFFICER (Τγρθ ο	or print)
		301112300	lliam M. Yates		
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNE		UNITED STATES OF AMERICA	ELECTRONIC SIGNATUR	

 CONTINUATION SHEET
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 PAGE 2
 OF 2
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NAME OF OFFEROR OR CONTRACTOR

EM NO.	SUPPLIES/SERVICES	QUANTITY		UNIT PRICE	AMOUNT
(A)	(B)	(C)	(D)	(E)	(F)
	Payment:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
	Period of Performance: 10/22/2019 to 10/21/2020				
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AMENDMENT OF SOLICITATION/MODIFICA	ATION OF CONTRACT		CONTRACT ID CODE	PAGE	OF PAGES
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQ	UISITION/PURCHASE REQ. NO.	5. PROJECT	NO. (If applicable)
P00002	 See Block 16C	PR-0	RD-20-01037		, ,,
6. ISSUED BY CODE	CAD	7. ADN	IINISTERED BY (If other than Item 6)	CODE	
CAD US Environmental Protection 26 West Martin Luther King D Mail Code: W136 Cincinnati OH 45268-0001					
8. NAME AND ADDRESS OF CONTRACTOR (No., street.	county State and 7IP Code)	94	AMENDMENT OF SOLICITATION NO.		
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(Signature of person authorized to sign)		- 4.4		SIGNATURE	06/17/2020
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 CONTINUATION SHEET
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 OF

 68HERC19D0003/68HERC20F0028/P00002
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NAME OF OFFEROR OR CONTRACTOR

EM NO.	SUPPLIES/SERVICES	QUANTITY		UNIT PRICE	AMOUNT
(A)	(B)	(C)	(D)	(E)	(F)
	Obligated Amount for this Modification: \$50,648.00				
	New Total Obligated Amount for this Award:				
	\$90,165.00				
	CHANGES FOR LINE ITEM NUMBER: 1				
	Total Amount changed				
	from \$39,517.00 to \$90,165.00				
	Obligated Amount for this Modification: \$50,648.00				
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	Amount changed from \$39,517.00 to \$90,165.00				
	NEW ACCOUNTING CODE ADDED:				
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	19-20-C-26D5000-000FK8XPW-2532-26A5C-2026D5E023-00				
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	Beginning FiscalYear 19				
	Ending Fiscal Year 20				
	Fund (Appropriation) C				
	Budget Organization 26D5000				
	Program (PRC) 000FK8XPW				
	Budget (BOC) 2532				
	Job # (Site/Project)				
	Cost Organization 26A5C				
	DCN-LineID 2026D5E023-001				
	Quantity: 0 Amount: \$26,832.00				
	Percent: 29.75878				
	Subject To Funding: N				
	Payment Address:				
	NEW ACCOUNTING CODE ADDED:				
	Account code:				
	19-20-C-26D5000-000FK9-2532-26A5C-2026D5E023-002				
	Beginning FiscalYear 19				
	Ending Fiscal Year 20				
	Fund (Appropriation) C				
	Budget Organization 26D5000				
	Program (PRC) 000FK9				
	Budget (BOC) 2532				
	Job # (Site/Project)				
	Cost Organization 26A5C				
	DCN-LineID 2026D5E023-002				
	Quantity: 0				
	Amount: \$11,526.00				
	Percent: 12.78323				
	Subject To Funding: N				
	Payment Address:				
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NAME OF OFFEROR OR CONTRACTOR

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	Budget (BOC) 2532				
	Job # (Site/Project)				
	Cost Organization 26A5C				
	DCN-LineID 2026D5E023-003				
	Quantity: 0				
	Amount: \$214.00				
	Percent: .23734				
	Subject To Funding: N				
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	Fund (Appropriation) C3				
	Budget Organization 26D5000				
	Program (PRC) 000FK8				
	Budget (BOC) 2532				
	Job # (Site/Project) Cost Organization 26A5C				
	DCN-LineID 2026D5E023-004				
	Quantity: 0				
	Amount: \$1,638.00				
	Percent: 1.81667				
	Subject To Funding: N				
	Payment Address:				
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	5				
	Beginning FiscalYear 20				
	Ending Fiscal Year 21				
	Fund (Appropriation) C				
	Budget Organization 26D5000				
	Program (PRC) 000FK8XPV				
	Budget (BOC) 2532				
	Continued				

 CONTINUATION SHEET
 REFERENCE NO. OF DOCUMENT BEING CONTINUED
 PAGE
 OF

 68HERC19D0003/68HERC20F0028/P00002
 4
 4

NAME OF OFFEROR OR CONTRACTOR

TEM NO.	SUPPLIES/SERVICES	QUANTITY		UNIT PRICE	AMOUNT
(A)	(B)	(C)	(D)	(E)	(F)
	Job # (Site/Project)				
	Cost Organization 26A5C				
	DCN-LineID 2026D5E023-005				
	Quantity: 0				
	Amount: \$10,438.00				
	Percent: 0				
	Subject To Funding: N				
	Payment Address:				
	Dormont				
	Payment:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts Durham NC 27711				
	Period of Performance: 10/22/2019 to 10/21/2020				
		1	ıl		

AMENDME	ENT OF SOLICITATION/MODIFIC	CATION OF C	ONTRACT	1. CONTRACT ID CODE	PAGE OF PAGES
2. AMENDME	NT/MODIFICATION NO.	3. EFFECTIVE	DATE	L 4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00003		See Blo	ck 16C		
6. ISSUED BY	CODE	_		7. ADMINISTERED BY (If other than Item 6)	CODE
26 West Mail Co	ronmental Protection Martin Luther King de: W136 ati OH 45268-0001				
8 NAME AND	ADDRESS OF CONTRACTOR (No., stre	ot county State and	7/P Code)	9A. AMENDMENT OF SOLICITATION NO.	
ICF Inco Attn: Ro 9300 LEF	orporated, L.L.C. bbert Toth HIGHWAY VA 220316050	et, county, state and	_	9B. DATED (SEE ITEM 11) 10A. MODIFICATION OF CONTRACT/ORDER 68 HERC19D0003 68 HERC20F0028 10B. DATED (SEE ITEM 13)	: NO.
CODE 07	72648579	FACILITY COD	E	10/22/2019	
125 0		11. THIS IT	 EM ONLY APPLIES TO AM	 ENDMENTS OF SOLICITATIONS	
OFFER. If each letter	by virtue of this amendment you desire to or electronic communication makes refer TING AND APPROPRIATION DATA (If reledule 13. THIS ITEM ONLY APPLIES TO A. THIS CHANGE ORDER IS ISSUED ORDER NO. IN ITEM 10A.	o change an offer ence to the solicite quired) MODIFICATION O PURSUANT TO: ACT/ORDER IS M TH IN ITEM 14, PU	already submitted , such ciation and this amendment, F CONTRACTS/ORDERS. (Specify authority) THE CONTRACTS THE AUTHORITED TO REFLECT TILLINGUANT TO THE AUTHORITED	OUR AND DATE SPECIFIED MAY RESULT IN REnange may be made by letter or electronic communand is received prior to the opening hour and date. IT MODIFIES THE CONTRACT/ORDER NO. AS INCHARGES SET FORTH IN ITEM 14 ARE MADE IN THE ADMINISTRATIVE CHANGES (such as change DRITY OF FAR 43.103(b).	nication, provided specified. DESCRIBED IN ITEM 14. I THE CONTRACT
	D. OTHER (Specify type of modification		INTO FORGOANT TO ACT	TIGNITI GI.	
E. IMPORTAN	IT: Contractor 🗵 is not	is required t	o sign this document and	return copies to the issu	uing office.
DUNS Num TOCOR: 1 The pur modific unchange Continue	mber: 072648579 Nicolle Tulve pose of this modific ation signed by Raou ed. ed	ation is 1 Scott o	to incorporat n July 30, 20	e the attached EPA blanke 20. All other terms and as heretofore changed, remains unchanged and i	et administrative conditions remain
				William M. Yates	
15B. CONTRA	ACTOR/OFFEROR		15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	ELECTRONIC SIGNATURE 10/07/2020

 CONTINUATION SHEET
 REFERENCE NO. OF DOCUMENT BEING CONTINUED 68HERC19D0003/68HERC20F0028/P00003
 PAGE 2
 2
 2

NAME OF OFFEROR OR CONTRACTOR

M NO.	SUPPLIES/SERVICES	QUANTITY		UNIT PRICE	AMOUNT
A)	(B)	(C)	(D)	(E)	(F)
	Payment:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
	Period of Performance: 10/22/2019 to 10/21/2020				

AMEN	IDMENT OF SOLICITATION	/MODIFICATION (OF CONTRACT	1. CONTRACT ID CO	DDE F	PAGE C	F PAGES
2. AMENDME	NT/MODIFICATION NUMBER	3. EFFECTIVE DATE 08/13/2020	4. REQUISITION/PURCHASE	 E REQUISITION NUMBER	5. PROJECT I	NUMBER ((If applicable)
6. ISSUED BY	CODE		7. ADMINISTERED BY (i	f other than Item 6)	CODE		
OMS/ARM US Enviror 1200 Penr	Scott, Director I/OAS/Policy, Training and Over nmental Protection Agency, Mai nsylvania Avenue, NW n, DC 20004	rsight Division I Code 3802R			L		
	ADDRESS OF CONTRACTOR (Number, str	reet, county, State and ZIP Co	ode)	(X) 9A. AMENDME	NT OF SOLICITA	ATION NUL	MRER
To All EPA	Contractors			9B. DATED (SEI 10A. MODIFICA To all EPA (10B. DATED (SE	EITEM 11) TION OF CONTI	RACT/ORI	DER NUMBER
CODE		CILITY CODE					
	11. THIS ITE	M ONLY APPLIES TO	AMENDMENTS OF S	OLICITATIONS			
or (c) By separa RECEIVED AT by virtue of this communication	ng items 8 and 15, and returning ate letter or electronic communication which is THE PLACE DESIGNATED FOR THE RECE amendment you desire to change an offer al makes reference to the solicitation and this a	ncludes a reference to the sol EIPT OF OFFERS PRIOR TO ready submitted, such change mendment, and is received p	icitation and amendment num THE HOUR AND DATE SPE e may be made by letter or ele rior to the opening hour and d	bers. FAILURE OF YO CIFIED MAY RESULT I extronic communication, ate specified.	UR ACKNOWLE IN REJECTION (provided each le	DGMENT OF YOUR	TO BE OFFER. If
			DIFICATIONS OF COI R NUMBER AS DESC				
CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PUR NUMBER IN ITEM 10A.		1 16 17			NTRACT	ORDER
X	B. THE ABOVE NUMBERED CONTRACT/ appropriation data, etc.) SET FORTH IN	ORDER IS MODIFIED TO RE ITEM 14, PURSUANT TO TH	EFLECT THE ADMINISTRATI HE AUTHORITY OF FAR 43.1	VE CHANGES (such as 103(b).	changes in payi	ng office,	
	C. THIS SUPPLEMENTAL AGREEMENT IS		NT TO AUTHORITY OF:				
	D. OTHER (Specify type of modification and	a authority)			·		
		s required to sign this			s to the issuir	ng office	
This contra 4.2105, red Telecomm	act/order is being modified in acquiring contracting officers to incurrent unications and Video Surveillaned for the full text version of FA	cordance with the ap clude FAR clause 52. ce Services or Equip	plicability instructions 204-25, Prohibition o ment.	s in interim FAR (on Contracting fo	Case 2019-0 r Certain	009, an	d FAR
Except as provi	ded herein, all terms and conditions of the do	cument referenced in Item 9A	or 10A, as heretofore change	ed, remains unchanged	and in full force	and effect.	
	ND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF Raoul D. Scott, Dire	CONTRACTING OFFIC	CER (Type or pri	nt)	Division
	- 1					- 3	
15B. CONTRA	CTOR/OFFEROR	15C. DATE SIGNED	RAOUL SCO		RAOUL SCOTT 1:40:17 -04'00'	16C. DA	TE SIGNED
(S	ignature of person authorized to sign)	_	(Signature	of Contracting Officer)			

52.204-25 Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.

As prescribed in 4.2105(b) and in the applicability instructions in interim FAR Case 2019-009, insert the following clause:

Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment (Aug 2020)

(a) <u>Definitions</u>. As used in this clause—

Backhaul means intermediate links between the core network, or backbone network, and the small subnetworks at the edge of the network (e.g., connecting cell phones/towers to the core telephone network). Backhaul can be wireless (e.g., microwave) or wired (e.g., fiber optic, coaxial cable, Ethernet).

Covered foreign country means The People's Republic of China.

Covered telecommunications equipment or services means—

- (1) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities);
- (2) For the purpose of public safety, security of Government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities);
- (3) Telecommunications or video surveillance services provided by such entities or using such equipment; or
- (4) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

Critical technology means-

- (1) Defense articles or defense services included on the United States Munitions List set forth in the International Traffic in Arms Regulations under subchapter M of chapter I of title 22, Code of Federal Regulations;
- (2) Items included on the Commerce Control List set forth in Supplement No. 1 to part 774 of the Export Administration Regulations under subchapter C of chapter VII of title 15, Code of Federal Regulations, and controlled-

- (i) Pursuant to multilateral regimes, including for reasons relating to national security, chemical and biological weapons proliferation, nuclear nonproliferation, or missile technology; or
 - (ii) For reasons relating to regional stability or surreptitious listening;
- (3) Specially designed and prepared nuclear equipment, parts and components, materials, software, and technology covered by part 810 of title 10, Code of Federal Regulations (relating to assistance to foreign atomic energy activities);
- (4) Nuclear facilities, equipment, and material covered by part 110 of title 10, Code of Federal Regulations (relating to export and import of nuclear equipment and material);
- (5) Select agents and toxins covered by part 331 of title 7, Code of Federal Regulations, part 121 of title 9 of such Code, or part 73 of title 42 of such Code; or
- (6) Emerging and foundational technologies controlled pursuant to section 1758 of the Export Control Reform Act of 2018 (50 U.S.C. 4817).

Interconnection arrangements means arrangements governing the physical connection of two or more networks to allow the use of another's network to hand off traffic where it is ultimately delivered (e.g., connection of a customer of telephone provider A to a customer of telephone company B) or sharing data and other information resources.

Reasonable inquiry means an inquiry designed to uncover any information in the entity's possession about the identity of the producer or provider of covered telecommunications equipment or services used by the entity that excludes the need to include an internal or third-party audit.

Roaming means cellular communications services (e.g., voice, video, data) received from a visited network when unable to connect to the facilities of the home network either because signal coverage is too weak or because traffic is too high.

Substantial or essential component means any component necessary for the proper function or performance of a piece of equipment, system, or service.

(b) Prohibition. (1) Section 889(a)(1)(A) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2019, from procuring or obtaining, or extending or renewing a contract to procure or obtain, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. The Contractor is prohibited from providing to the Government any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104.

- (2) Section 889(a)(1)(B) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2020, from entering into a contract, or extending or renewing a contract, with an entity that uses any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104. This prohibition applies to the use of covered telecommunications equipment or services, regardless of whether that use is in performance of work under a Federal contract.
 - (c) Exceptions. This clause does not prohibit contractors from providing—
- (1) A service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or
- (2) Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.
 - (d) Reporting requirement.
- (1) In the event the Contractor identifies covered telecommunications equipment or services used as a substantial or essential component of any system, or as critical technology as part of any system, during contract performance, or the Contractor is notified of such by a subcontractor at any tier or by any other source, the Contractor shall report the information in paragraph (d)(2) of this clause to the Contracting Officer, unless elsewhere in this contract are established procedures for reporting the information; in the case of the Department of Defense, the Contractor shall report to the website at https://dibnet.dod.mil. For indefinite delivery contracts, the Contractor shall report to the Contracting Officer for the indefinite delivery contract and the Contracting Officer(s) for any affected order or, in the case of the Department of Defense, identify both the indefinite delivery contract and any affected orders in the report provided at https://dibnet.dod.mil.
- (2) The Contractor shall report the following information pursuant to paragraph (d)(1) of this clause
- (i) Within one business day from the date of such identification or notification: the contract number; the order number(s), if applicable; supplier name; supplier unique entity identifier (if known); supplier Commercial and Government Entity (CAGE) code (if known); brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.
- (ii) Within 10 business days of submitting the information in paragraph (d)(2)(i) of this clause: any further available information about mitigation actions undertaken or recommended. In addition, the Contractor shall describe the efforts it undertook to prevent use or submission of covered telecommunications equipment or services, and any additional efforts that will be incorporated to prevent future use or submission of covered telecommunications equipment or services.

(e) *Subcontracts*. The Contractor shall insert the substance of this clause, including this paragraph (e) and excluding paragraph (b)(2), in all subcontracts and other contractual instruments, including subcontracts for the acquisition of commercial items.

(End of clause)

AMENDMENT OF SOLICITATION/MODIFIC	ATION OF CO	ONTRACT	I. CONTRACTIBE	ODL	1	OF PAGES
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE	DATE	 4. REQUISITION/PURCHASE	E REQ. NO.	5. PROJECT	NO. (If applicable)
P00004	See Bloo	ck 16C	PR-ORD-21-00075			
6. ISSUED BY CODE	CAD		7. ADMINISTERED BY (If oti	her than Item 6)	CODE	
CAD US Environmental Protection 26 West Martin Luther King D Mail Code: W136 Cincinnati OH 45268-0001	Agency					
8. NAME AND ADDRESS OF CONTRACTOR (No., street	, county, State and	ZIP Code) (x) 9A. AMENDMENT OF SC	DLICITATION NO.		
ICF Incorporated, L.L.C.		ľ				
Attn: Robert Toth			9B. DATED (SEE ITEM 1	1)		
9300 LEE HIGHWAY						
FAIRFAX VA 220316050		-	404 MODIFICATION OF	CONTRACTIONNEN	NO	
		-	68HERC19D0003	CONTRACT/ORDERT	NO.	
			68HERC20F0028	}		
			10B. DATED (SEE ITEM	13)		
CODE 072648579	FACILITY COD	E	10/22/2019			
	11. THIS ITI	 EM ONLY APPLIES TO AN	 ENDMENTS OF SOLICITATI	ONS		
RECEIVED AT THE PLACE DESIGNATED FOR THE OFFER. If by virtue of this amendment you desire to each letter or electronic communication makes referent 2. ACCOUNTING AND APPROPRIATION DATA (If required)	change an offer a	already submitted , such c	hange may be made by letter	or electronic communi	ication, provided	
See Schedule						
13. THIS ITEM ONLY APPLIES TO M	ODIFICATION O	F CONTRACTS/ORDERS	IT MODIFIES THE CONTRA	CT/ORDER NO. AS DE	ESCRIBED IN IT	EM 14.
A. THIS CHANGE ORDER IS ISSUED FORDER NO. IN ITEM 10A. B. THE ABOVE NUMBERED CONTRACT						
B. THE ABOVE NUMBERED CONTRAC appropriation data, etc.) SET FORTH C. THIS SUPPLEMENTAL AGREEMEN			(F. 37%)			
D. OTHER (Specify type of modification						
X Mutual Agreement of	the Part	ies				
E. IMPORTANT: Contractor X is not	is required t	to sign this document and	return	copies to the issuir	ng office.	
14. DESCRIPTION OF AMENDMENT/MODIFICATION	(Organized by U	CF section headings, inclu	iding solicitation/contract sub	ject matter where feas	ible.)	
DUNS Number: 072648579						
TOCOR: Nicolle Tulve						
LIST OF CHANGES:						
Reason for Modification: The					-	
performance because of the m						
significant air pollution.			ed the relocat:	ion for heal	ith and s	safety
along with the delays in the	work pr	ovided.				
Period Of Performance End Da	te change	ed from 21-00	T-20 to 21-0CT	-21		
Continued						
Except as provided herein, all terms and conditions of the	e document refe	erenced in Item 9 A or 10A	, as heretofore changed, rem	ains unchanged and in	full force and ef	fect.
15A. NAME AND TITLE OF SIGNER (Type or print)			16A. NAME AND TITLE OF	CONTRACTING OFF	ICER (Type or p	rint)
			William M. Yat	.es		
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED	16B. UNITED STATES OF A	MERICA		16C. DATE SIGNED
			Walter Com. Gar.		ELECTRONIC SIGNATURE	10/07/0000
December 1981 Section 1981 Sect					A CONTRACT OF THE PROPERTY.	10/27/2020

(Signature of Contracting Officer)

 CONTINUATION SHEET
 REFERENCE NO. OF DOCUMENT BEING CONTINUED 68HERC19D0003/68HERC20F0028/P00004
 PAGE 2
 2
 2

NAME OF OFFEROR OR CONTRACTOR

EM NO.	SUPPLIES/SERVICES	QUANTITY		UNIT PRICE	AMOUNT
(A)	(B)	(C)	(D)	(E)	(F)
	Payment:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
	Period of Performance: 10/22/2019 to 10/21/2021				